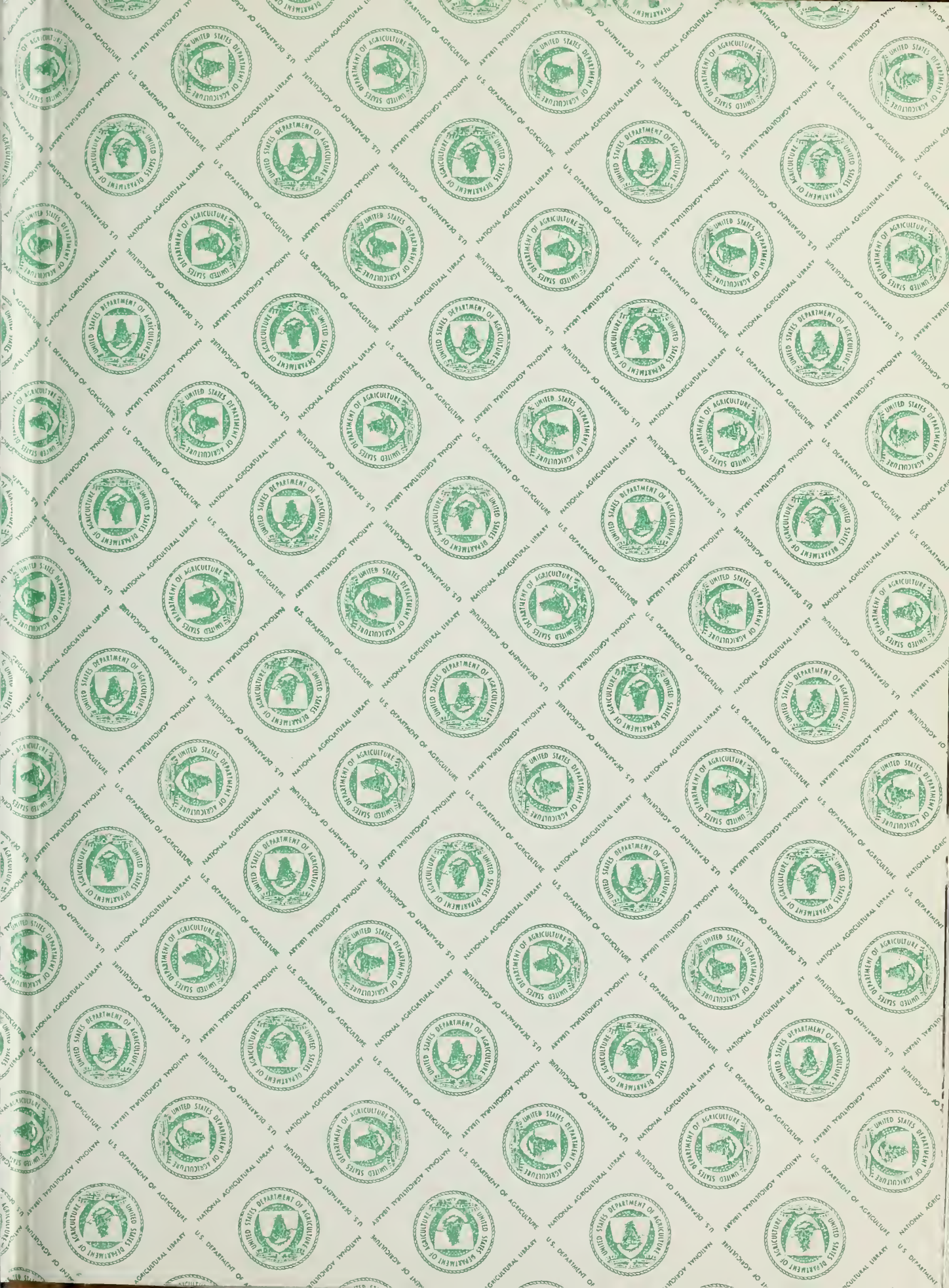

UNITED STATES DEPARTMENT OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY
U.S. DEPARTMENT OF AGRICULTURE


U.S. DEPARTMENT OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY

)A Forest Service
earch Paper RM-111
/ 1973

FOODS OF THE ROCKY MOUNTAIN MULE DEER

by Roland C. Kufeld, O. C. Wallmo
and Charles Feddema

)32U
:ky Mountain Forest and
ıge Experiment Station

orado Division of Wildlife —
)artment of Natural Resources

rest Service
S. Department of Agriculture

Fort Collins, Colorado

Abstract

Literature on food habits of the Rocky Mountain mule deer *(Odocoileus hemionus hemionus)* was reviewed to compile listings of reported foods of this species throughout its range. Plant species are classified as to relative importance on the basis of their contribution to the diet in 99 studies where quantitative data were provided. A total of 202 shrubs and trees, 484 forbs, 84 grasses, sedges and rushes, and 18 lower plants are listed.

Oxford: 156.2. **Keywords:** Wildlife food plants, *Odocoileus hemionus hemionus.*

The use of trade and company names is for the benefit of the reader; such use does not constitute an official endorsement or approval of any service or product by the U. S. Department of Agriculture to the exclusion of others that may be suitable.

USDA Forest Service
Research Paper RM-111

July 1973

Foods of the Rocky Mountain Mule Deer[1]

by

Roland C. Kufeld, O. C. Wallmo, and Charles Feddema[2]

[1]*This study is a contribution of Federal Aid in Wildlife Restoration Project W-101-R. Personnel of the Library Reference Service, Federal Aid in Wildlife Restoration, Denver, Colorado, assisted in assembling deer food habits references.*

[2]*Kufeld is Wildlife Researcher, Colorado Division of Wildlife, Fort Collins, Colorado. Wallmo is Principal Wildlife Biologist and Feddema is Research Botanist, Forest Service Herbarium, Rocky Mountain Forest and Range Experiment Station, U. S. Department of Agriculture, Forest Service. The Station's central headquarters is maintained at Fort Collins, in cooperation with Colorado State University.*

Contents

Foods of the Rocky Mountain Mule Deer

Roland C. Kufeld, O. C. Wallmo, and Charles Feddema

Knowledge of the relative degree to which mule deer consume various species of plants is basic to deer range appraisal and to planning and evaluating habitat improvement programs. Although numerous mule deer food habits studies have been conducted, individual studies are limited to a specific area, and relatively few plant species are found in the diet compared to the number of plants eaten by deer throughout their range. The amount of a particular species found in a given study may or may not be indicative of its true importance as deer forage. In preparing this report, we have evaluated all available food habits studies to determine which plants are eaten by mule deer, and their relative importance as reflected by the degree to which they are consumed. Relative importance of plants in this report does not infer nutritional quality or the status of a species in relationship to a desired stage of ecological succession.

Methods

Only those studies which pertain to food habits of the Rocky Mountain mule deer *(Odocoileus hemionus hemionus)* in the Western United States and Canada were included. Studies of Rocky Mountain mule deer transplanted to areas outside their normal range were excluded. Locations of food habits studies evaluated are mapped in figure 1.

Only studies meeting the following criteria were incorporated: (1) Data must have been original and derived from a specific effort to collect food habits information. References containing statements of what deer eat based on general knowledge, or those which summarized previous food habits studies were excluded. (2) Data must have been listed by species and reported quantitatively in terms that would permit the categorization used in this report. (3) Season of use must have been shown. (4) Data must have been listed separately for mule deer. Studies which referred to combined deer and elk use, or mule deer and white-tailed deer use or "game use" were excluded. (5) Studies with a very limited sample (for example only two or three stomachs) were excluded. (6) Deer must have had free choice of available forage. This excluded some pen feeding studies. (7) Study animals must not have been starving. (8) Routine management surveys of browse use, involving fall and spring measurements of tagged twigs, were excluded. In such surveys not all available species were measured, and it is not possible to be sure what animal ate the plant. Ninety-nine studies were incorporated in this summary.

Methods of data collection were divided into five categories: stomach analysis; feeding observations on wild deer; feeding observations on tame, trained deer; ocular judgments of plant use; and pen feeding studies designed to determine relative preferences for natural forage.

Food habits studies differ widely in methods of collecting and presenting data; in number, relative abundance, and availability of plant species encountered; and in number of animals using the study area. Thus, firm guidelines cannot be established for comparing results of different studies in terms of relative forage preference. In every study, however, some plants comprised a greater portion of the sample than others. It is impossible to equate the various kinds of quantification used: volume of stomach contents measured by different methods, weight of stomach contents, instances of amount of apparent use on plants, bites taken by tame deer, or weight consumed in "cafeteria" feeding. Therefore, we categorized the quantities recorded, regardless of the measurements used, in three broad

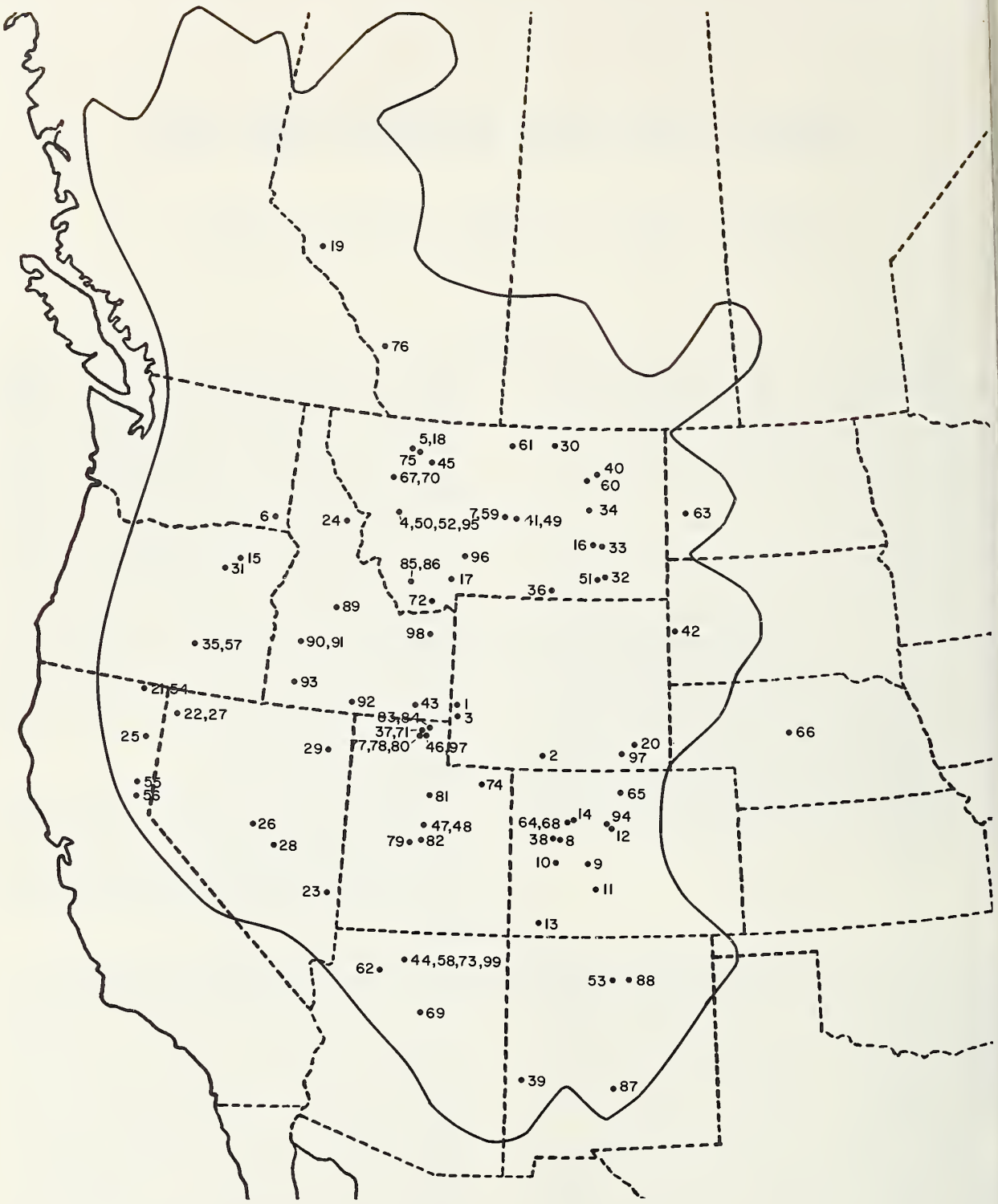


Figure 1.—Locations of Rocky Mountain mule deer food habits studies summarized in this paper. Numbers indicate literature citations. The enclosing line is the distribution boundary of the Rocky Mountain mule deer as reported by Taylor (Taylor, Walter P. 1956. The deer of North America. 668 p. The Stackpole Co., Harrisburg, Pa.). The portion of the boundary within Arizona and New Mexico, however, was modified to conform with that reported by Hoffmeister (Hoffmeister, Donald F. 1962. The kinds of deer, *Odocoileus,* in Arizona. Am. Midl. Nat. 67:45-64.).

groups: heavily, moderately, or lightly eaten. Heavily eaten plants, by definition, comprised a major part of a food sample (usually at least 20 percent). In a few cases, plants which comprised less than a major portion of the food sample were classified as heavily eaten if their reported contribution to the diet was far in excess of their reported vegetative composition. Moderately eaten plants usually comprised between 5 and 20 percent of the food sample, and lightly eaten plants comprised less than 5 but more than 1 percent. Plants which contributed less than 1 percent of the total or were reported as trace amounts were excluded from the above system and were cited separately in the summary tables.

Light use was then given a value of 1, moderate use 2, and heavy use 3. These rankings were then summed for each species by season, and the sums divided by the number of citations involved to obtain a mean rank. Mean ranks were then categorized by symbols: - for mean ranks of 1.00 to 1.49, + for 1.50 to 2.24, and * for 2.25 to 3.00. This arbitrary procedure obviously cannot provide accurate summary quantification of the studies involved, but the mean rank of a species, along with the number of times it was cited, suggests its relative importance in deer diets over the range.

Data were separated by the following seasons of use: **Winter** —December, January, February; **Spring** —March, April, May; **Summer** —June, July, August; **Fall** —September, October, November.

Some plants, identified as to species in the original food habits reference, have been listed here only by genus because the identity of the species is questionable. A number of names have been changed from those used in the original studies to reflect current usage in wildlife management and in recent plant manuals, especially those covering large portions of the Rocky Mountain mule deer range. These changes are appropriately keyed in the summary tables.

Results

Seasonal Use of Major Forage Groups

Percent composition of shrubs and trees, forbs, and grasses and grasslike plants (sedges and rushes) in Rocky Mountain mule deer diets, as reported from selected references (Literature Citation numbers) for each season of the year, is presented in table 1. We used only those references in which information was presented in such a manner that percent composition of major plant groups in the diet could be easily retrieved by season. Shrubs and trees contributed the bulk of the forage consumed during all seasons of the year in most of these references, although there is a great deal of variation among references in composition of forage eaten.

During winter, shrubs and trees averaged 74 percent of the diet in these selected references, forbs comprised an average of 15 percent, and grasses, sedges, and rushes 11 percent. Consumption of grass and grasslike plants was quite variable in winter data, ranging from 0 to 53 percent of the diet.

During spring, average reported consumption of shrubs and trees dropped to 49 percent, and forb and grass-grasslike dietary consumption rose to 25 and 26 percent, respectively. Reported use of grasses, sedges, and rushes was highest during spring, but ranged from 4 to 64 percent of the diet among the selected references.

In summer studies, average shrub and tree dietary consumption remained at 49 percent, while forbs rose to an average of 46 percent and grasses-grasslikes dropped to 3 percent. Consumption of forbs was highest in summer, ranging from 3 to 77 percent among the selected references. Use of grasses, sedges, and rushes as a class was lowest during summer, ranging between 0 and 22 percent of the diet. Lower plant forms became important food in some areas during summer. Hungerford (*44*) found that mushrooms comprised 66 percent of the mule deer diet on the North Kaibab National Forest in Arizona between August 1 and 15.

In fall data, use of shrubs and trees rose to 60 percent of the diet while forbs declined to 30 percent, and grasses-grasslikes climbed to 9 percent. Fall forb dietary composition was extremely variable, ranging from a low of 2 percent to 78 percent of the total forage reported. In the grass-sedge-rush category, composition varied from 0 to 24 percent in fall data.

Seasonal Importance of Individual Plant Species

Plant species eaten by deer, and their relative importance rankings for each season, are listed by shrubs and trees in table 2, forbs in table 3, grasses and grasslike plants in table 4, and lower plants in table 5. Validity

of these rankings can be assumed to increase with the number of references on which a ranking is based.

Tables 2 through 5 also show the references in which a species was recorded as a trace amount or comprising less than 1 percent of the diet. A plant that has been reported as comprising less than 1 percent of the diet in only a few food habits studies can probably be attributed little importance in management considerations. However, one that has appeared in numerous studies, even though never contributing more than 1 percent, may have some significance as deer food. It may contain some nutrient that deer need only in small quantities, or even though palatable the plant may not be abundant enough on the range to contribute substantially to the overall deer diet. Numerous references to trace amounts of use, in addition to a quantitative ranking, would no doubt lend additional significance to consideration of a plant as deer food.

Plant names in tables 2 through 5 which were changed in this publication from those appearing in the original deer food habits references are listed and explained in table 6.

Shrubs and trees most often ranked as heavily eaten were *Artemisia tridentata, Cercocarpus ledifolius, Cercocarpus montanus, Cowania mexicana, Populus tremuloides, Purshia tridentata, Quercus gambellii* and *Rhus trilobata*. Most of these were heavily consumed only during certain seasons of the year. Other shrubs and trees frequently reported, but with rankings ranging between light and heavy depending upon the season, were *Amelanchier alnifolia, Arctostaphylos uva-ursi, Artemisia cana, Berberis repens, Ceanothus velutinus, Chrysothamnus* sp., *Chrysothamnus nauseosus, Chrysothamnus viscidiflorus, Juniperus* spp., *Pachystima myrsinites, Pinus edulis, Pinus ponderosa, Prunus virginiana, Pseudotsuga menziesii, Ribes* sp., *Rosa* sp., *Salix* spp., *Shepherdia canadensis, Symphoricarpos* spp., and *Yucca glauca*.

Relatively few individual forb species were reported heavily eaten in a large number of references, although many forbs were frequently reported to be consumed in moderate quantities. In studies reporting forbs, a large variety of species were usually involved. Thus, rarely did one particular species consistently constitute a major portion of the diet.

The most frequently reported forbs, taken in various amounts, were *Achillea millefolium, Antennaria* sp., *Artemisia frigida, Artemisia ludoviciana, Aster* spp., *Astragalus* sp., *Balsamorhiza sagittata, Cirsium* sp., *Erigeron* spp., *Eriogonum* spp., *Geranium* sp., *Lactuca serriola, Lupinus* spp., *Medicago sativa, Penstemon* spp., *Phlox* sp., *Phlox hoodii, Polygonum* sp., *Potentilla* spp., *Taraxacum officinale, Tragopogon dubius, Trifolium* sp., and *Vicia americana*.

While grasses, sedges, and rushes appear to be important mule deer foods, particularly in spring, most authors simply lumped them into a "grass and grasslike" category, and did not attempt to list quantities eaten by individual species. Thus the actual list of grasses, sedges, and rushes eaten by mule deer is probably much more extensive than presented in table 4. Also, the number of references upon which importance rankings for individual grass and grasslike species are based in table 4 would undoubtedly be much greater had it not been for lumping by most authors. Where species were identified, the most commonly reported were *Agropyron* sp., *Agropyron spicatum, Bromus tectorum, Carex* spp., *Festuca idahoensis, Poa fendleriana, Poa pratensis,* and *Poa* spp. These ranged from light to heavy in quantity consumed, depending upon season of the year. No sedges or rushes ranked higher than light in any season.

Little information is available on the importance of individual lower plant species as deer food. Most of the species in table 5 appeared in only one food habits study. Authors usually lumped lower plants into a mushroom, lichen, moss, or fungus category.

The Compositae, Gramineae, Rosaceae, and Leguminoseae with 50, 30, 26, and 21 genera, respectively, and 110, 55, 53, and 51 named species were the most abundantly represented plant families. They are also among the largest families of vascular plants.

Discussion

All methods used in studies of deer food habits contain problems, either in identification, quantification, or both. The possibility of bias toward large, conspicuous plants or, in stomach analyses, slowly digested plants or those with distinctive morphological features is obvious. Furthermore, relative abundance, availability, and palatability of plants on the ranges where the individual studies were made influence their presence in the diet. This summary cannot take such factors into account. Nevertheless, we feel that the relative rankings and the number of citations for the various species can offer managers some general

guidelines for recognizing species of conspicuous importance as foods for Rocky Mountain mule deer.

Since rankings contained here are averages, some deer managers working where food habits have been studied extensively may feel that certain ratings are too high or low for their particular area, which may very well be true. However, the real benefits from these rankings should be realized by managers who lack sufficient data to determine the relative importance of plants in their area, and by managers who want to revegetate ranges with plant species known to be good deer forage.

Literature Cited[3]

1. Anderson, Chester C.
   1952. Food habits study of elk and deer. Wyo. Fish and Game Comm. Fed. Aid Completion Rep. Proj. W-27-R-5, WP-1, J-2, p. 21-39.
2. Anderson, Chester C.
   1953. Food habits of elk and deer. Wyo. Fish and Game Comm. Fed. Aid Completion Rep. Proj. W-27-R-6, WP-1, J-2, p. 19-28.
3. Anderson, Chester C., William I. Crump, and Theodore C. Baker.
   1956. Food habits of antelope, elk, deer and moose. Wyo. Fish and Game Comm. Fed. Aid Completion Rep. Proj. W-27-R-9, WP-1, J-1, p. 8-31.
4. Asher, Lowell O.
   1951. A study of the winter food habits of deer in the Rattlesnake Creek drainage. M.F. Thesis, 42 p. Univ. Mont., Missoula.
5. Berwick, S. H.
   1968. Observations on the decline of the Rock Creek, Montana, population of bighorn sheep. M.S. Thesis, 245 p. Univ. Mont., Missoula.
6. Buechner, Helmut K.
   1952. Winter-range utilization by elk and mule deer in southeastern Washington. J. Range Manage. 5:76-80.
7. Cada, John O.
   1971. South Little Belt Mountain deer investigations. Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-130-R-1 and 2, J-I-5, 18 p.
8. Carhart, A. H., and James Coutts.
   1941. Deer food requirements in Colorado [Book Cliffs District]. Colo. Game and Fish Comm. Fed. Aid Completion Rep. Proj. 4-R, Deer-elk survey. Vol. 5, Part 1, 28 p.
9. Carhart, A. H., and James Coutts.
   1941. Deer food requirements in Colorado [Frying Pan District]. Colo. Game and Fish Comm. Fed. Aid Completion Rep. Proj. 4-R, Deer-elk survey. Vol. 5, Part 1, 28 p.
10. Carhart, A. H., and James Coutts.
   1941. Deer food requirements in Colorado [Grand Mesa District]. Colo. Game and Fish Comm. Fed. Aid Completion Rep. Proj. 4-R, Deer-elk survey. Vol. 5, Part 1, 28 p.
11. Carhart, A. H., and James Coutts.
   1941. Deer food requirements in Colorado [Gunnison District]. Colo. Game and Fish Comm. Fed. Aid Completion Rep. Proj. 4-R, Deer-elk survey. Vol. 5, Part 1, 28 p.
12. Carhart, A. H., and James Coutts.
   1941. Deer food requirements in Colorado [Hot Sulphur Springs District]. Colo. Game and Fish Comm. Fed. Aid Completion Rep. Proj. 4-R, Deer-elk survey. Vol. 5, Part 1, 28 p.
13. Carhart, A. H., and James Coutts.
   1941. Deer food requirements in Colorado [Mesa Verde District]. Colo. Game and Fish Comm. Fed. Aid Completion Rep. Proj. 4-R, Deer-elk survey. Vol. 5, Part 1, 28 p.
14. Carhart, A. H., and James Coutts.
   1941. Deer food requirements in Colorado [White River District]. Colo. Game and Fish Comm. Fed. Aid Completion Rep. Proj. 4-R, Deer-elk survey. Vol. 5, Part 1, 28 p.
15. Cliff, Edward P.
   1939. Relationship between elk and mule deer in the Blue Mountains of Oregon. North Am. Wildl. Conf. Trans. 4:560-569.
16. Compton, H. O.
   1966. Wildlife investigations (District 7): Big game surveys and investigations. Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-77-R-11, J-A-1, 42 p.
17. Constan, Kerry J.
   1972. Winter foods and range use of three species of ungulates. J. Wildl. Manage. 36:1068-1076.

[3]*Some citations are repeated several times so the widely spaced study areas could be cited separately.*

18. Cooperrider, Allen Y.
1969. The biology and management of the bighorn sheep of Rock Creek, Montana. Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-98-R-8 and 9, J-B-19, 92 p.

19. Cowan, I. McT.
1947. Range competition between mule deer, bighorn sheep and elk in Jasper Park, Alberta. North Am. Wildl. Conf. Trans. 12:223-227.

20. Crump, William I.
1958. Food habits of big game. Wyo. Fish and Game Comm. Fed. Aid Completion Rep. Proj. W-27-R-11, WP-1, J-1, 9 p.

21. Dasmann, William P.
1949. Deer-livestock forage studies on the Interstate winter deer range in California. J. Range Manage. 2:206-212.

22. Deibert, William J.
1968. Mule deer condition and food habits on two Nevada ranges [Data from Fox Mountain study area]. M. S. Thesis, 126 p. Univ. Nev., Reno.

23. Deibert, William J.
1968. Mule deer condition and food habits on two Nevada ranges [Data from White Rock study area]. M.S. Thesis, 126 p. Univ. Nev., Reno.

24. DeNio, R. M.
1938. Elk and deer foods and feeding habits. North Am. Wildl. Conf. Trans. 3:421-427.

25. Dixon, Joseph S.
1934. A study of the life history and food habits of mule deer in California. Calif. Fish and Game 20:181-282,315-354.

26. Doughty, Larry Arthur.
1966. Food habits and nutrition of mule deer *(Odocoileus hemionus hemionus* Rafinesque) on four Nevada ranges [Data from Bates Mt. study area]. M. S. Thesis, 86 p. Univ. Nev., Reno.

27. Doughty, Larry Arthur.
1966. Food habits and nutrition of mule deer *(Odocoileus hemionus hemionus* Rafinesque) on four Nevada ranges [Data from Fox Mt. study area]. M.S. Thesis, 86 p. Univ. Nev., Reno.

28. Doughty, Larry Arthur.
1966. Food habits and nutrition of mule deer *(Odocoileus hemionus hemionus* Rafinesque) on four Nevada ranges [Data from Morey Bench study area]. M.S. Thesis, 86 p. Univ. Nev., Reno.

29. Doughty, Larry Arthur.
1966. Food habits and nutrition of mule deer *(Odocoileus hemionus hemionus* Rafinesque) on four Nevada ranges. [Data from Pequop Mts. study area]. M.S. Thesis, 86 p. Univ. Nev., Reno.

30. Dusek, Gary L.
1971. Range relationships of mule deer in the prairie habitat, northcentral Montana. M.S. Thesis, 63 p. Mont. State Univ., Bozeman.

31. Edwards, Oliver T.
1942. Survey of winter deer range, Malheur National Forest, Oregon. J. Wildl. Manage. 6:210-220.

32. Egan, Joe.
1953. Collection and analysis of deer stomachs in Ashland District (Powder River Unit). Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-1-R-12, WP-5, J-V-A-2, p. 31-37.

33. Egan, Joseph L., and H. O. Compton.
1962. Wildlife investigations (District 7): Big game surveys and investigations. Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-77-R-7, J-A-1, 39 p.

34. Eustace, Charles D.
1971. Mule deer food habits and browse use study. Mont. Dep. Fish and Game Fed. Aid Final Rep. Proj. W-130-R-1 and 2, J-1-7.1, 25 p.

35. Ferrel, C. M.
1961. Food habits investigations—Silver Lake, Oregon: stomach analysis. Calif. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-52-R-6, WP-II, J-1, 6 p.

36. Firebaugh, John E.
1969. Relationships of mule deer to livestock on summer range in the Pryor Mountains, Montana. M.S. Thesis, 55 p. Mont. State Univ., Bozeman.

37. Flook, Donald Robert.
1955. A study of the winter foraging habits of mule deer in enclosures in northern Utah, with a test of the half-and-half sampling technique. M. S. Thesis, 64 p. Utah State Univ., Logan.

38. Gilbert, Paul F.
1952. Food habits study. Colo. Dep. Game and Fish Fed. Aid Q. Rep. (July) Proj. W-38-R-5, WP-5, J-3, p. 103-106.

39. Gordon, L. S., and Jim McClellan.
1954. Investigations of game species on the Gila National Forest. N.M. Dep. Game and Fish Fed. Aid Completion Rep. Proj. W-61-R-3, J-1b, 62 p.

40. Greer, Kenneth R.
1960. Analysis of twenty-three mule deer rumens collected during 1958 from the Fort Peck Game Range study area, Valley County—with summarization by calendar and tropical periods. **In** Wildlife investigations—State: Wildlife investigations laboratory. Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-83-R-3, all jobs, 17 p.

41. Greer, Kenneth R.
1960. Rumen analysis of four mule deer collected during December, 1958, and January, 1959, from the south Snowy Mountains, Fergus County. **In** Wildlife investigations—State: Wildlife investigations laboratory. Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-83-R-3, all jobs, 17 p.

42. Hill, Ralph R., and Dave Harris.
1943. Food preferences of Black Hills deer. J. Wildl. Manage. 7:233-235.

43. Hoskins, Leonard W., and Paul D. Dalke.
1955. Winter browse on the Pocatello big game range in southeastern Idaho. J. Wildl. Manage. 19:215-225.

44. Hungerford, C. R.
1970. Response of Kaibab mule deer to management of summer range. J. Wildl. Manage. 34:852-862.

45. Janson, Reuel G., and Harold D. Picton.
1961. Wildlife investigations (District 4): Big game surveys and investigations. Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-74-R-6, J-A-1, 33 p.

46. Jensen, Charles H.
1968. The carrying capacity of certain range types for deer and domestic livestock and the forage habits of these animals. Utah Dep. Fish and Game Fed. Aid Final Rep. Proj. W-65-4-9, 10, 11 and W-105-R-1, 2, 3 and 4, J-A-4C, 17 p.

47. Julander, Odell.
1952. Forage habits of mule deer during the late fall, as measured by stomach content analyses. U.S. Dep. Agric. For. Serv. Intermt. For. and Range Exp. Stn. Res. Note 2, 5 p., Ogden, Utah.

48. Julander, Odell.
1955. Deer and cattle relations in Utah. For. Sci. 1:130-139.

49. Kamps, George F.
1969. Whitetail and mule deer relationships in the Snowy Mountains of central Montana. M.S. Thesis, 59 p. Mont. State Univ., Bozeman.

50. Klebenow, Donald A.
1965. A montane forest winter deer habitat in western Montana. J. Wildl. Manage. 29:27-33.

51. Knapp, Stephen.
1972. Range use of mule deer prior to initiation of rest rotation grazing for cattle on the Ft. Howes Ranger District, Custer National Forest, Montana. M.S. Thesis, 50 p., Mont. State Univ., Bozeman.

52. Knoche, Kenneth G.
1968. The ecology of the Rattlesnake Creek, Montana mule deer winter range. M.S. Thesis, 76 p., Univ. Mont., Missoula.

53. Lamb, Samuel H.
1968. Deer food preference: a department study in game range management. N.M. Wildl. 13(6):4-5.

54. Leach, Howard R.
1956. Food habits of the Great Basin deer herds in California [Data from the Devils Garden deer herd]. Calif. Fish and Game 42:243-308.

55. Leach, Howard R.
1956. Food habits of the Great Basin deer herds in California [Data from the Lassen-Washoe deer herd]. Calif. Fish and Game 42:243-308.

56. Leach, Howard R.
1956. Food habits of the Great Basin deer herds in California [Data from the Verdi deer herd]. Calif. Fish and Game 42(4):243-308.

57. Leckenby, D. A.
1966 through 1969. Deer ecology study. Oreg. State Game Comm. Fed. Aid Completion Rep. Proj. W-53-R-8, 9, 10, 11. [Data combined from separate reports.] Seg. 8, 10 p.; Seg. 9, 8 p.; Seg. 10, 24 p.; Seg. 11, 24 p.

58. Locke, S. B.
1932. Studies of feeding habits of mule deer in the Intermountain Region. Am. Game Conf. Trans. 18:262-266.

59. Lovass, Allen L.
1958. Mule deer food habits and range use, Little Belt Mountains, Montana. J. Wildl. Manage. 22:275-282.

60. Mackie, Richard J.
1970. Range ecology and relations of mule deer, elk and cattle in the Missouri River Breaks, Montana. Wildl. Monogr. 20, 79 p.

61. Martinka, C. J.
1968. Habitat relationships of white-tailed and mule deer in northern Montana. J. Wildl. Manage. 32:558-565.

62. McCulloch, Clay Y.
1969. Some effects of wildfire on deer habitat in pinyon-juniper woodland. J. Wildl. Manage. 33:778-784.

63. McKean, William T.
1954. Fall and winter foods of North Dakota deer. N.D. Agric. Exp. Stn. Bimon. Bull. 17(1):25-31.

64. McKean, William T., and Richard W. Bartmann.
1971. Deer-livestock relations on a pinyon-juniper range in northwestern Colorado. Colo. Div. Game, Fish and Parks, Fed. Aid Final Rep. Proj. W-101-R, WP-2, J-1, 132 p.

65. Medin, Dean E., and Allen E. Anderson.
1973. Analysis of stomach content samples from 232 Cache la Poudre mule deer, 1961-65. Colo. Div. Wildl., Fort Collins. (Unpublished data.)

66. Mohler, Levi L., John H. Wampole, and Edson Fichter.
1951. Mule deer in Nebraska National Forest. J. Wildl. Manage. 15:129-157.

67. Morris, M. S., and J. E. Schwartz.
1957. Mule deer and elk food habits on the National Bison Range. J. Wildl. Manage. 21:189-193.

68. Mustard, Eldie W., Jr.
1958. Food habits of the White River-Piceance Creek mule-deer herd on winter range. Colo. Coop. Wildl. Res. Unit Q. Rep. 11(4):15-21.

69. Neff, D. J.
1973. Forage preferences of trained mule deer on the Beaver Creek watershed. Ariz. Game and Fish Dep. Spec. Rep. (In press.)

70. Nellis, Carl H., and Robert L. Ross.
1969. Changes in mule deer food habits associated with herd reduction. J. Wildl. Manage. 33:191-195.

71. Nemanic, Joseph J.
1942. Winter browsing habits and food preferences of mule deer on the area east of the North Logan feeding grounds. B.S. Thesis, 24 p., Dep. Wildl. Manage., Utah State Agric. Coll., Logan.

72. Peek, James M.
1963. Wildlife investigations (District 3): Big game survey and investigations—summer of 1956-1960, Gravelly-Snowcrest rumen collections. Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-73-R-8, J-A-1, 11 p.

73. Rasmussen, D. Irvin.
1941. Biotic communities of Kaibab Plateau, Arizona. Ecol. Monogr. 11:229-275.

74. Richens, Voit B.
1967. Characteristics of mule deer herds and their range in northeastern Utah. J. Wildl. Manage. 31:651-666.

75. Schallenberger, Allen Dee.
1966. Food habits, range use and interspecific relationships of bighorn sheep in the Sun River area, west-central Montana. M.S. Thesis, 44 p. Mont. State Univ., Bozeman.

76. Sheppard, David H.
1960. The ecology of the mule deer of the Sheep River region. M.S. Thesis, 123 p., Univ. Alberta, Edmonton.

77. Smith, Arthur D.
1950. Feeding deer on browse species during winter. J. Range Manage. 3:130-132.

78. Smith, Arthur D.
1953. Consumption of native forage species by captive mule deer during summer. J. Range Manage. 6:30-37.

79. Smith, Arthur D., and David M. Gaufin.
1950. The use of movable paddocks in the study of forage preferences of mule deer and livestock. North Am. Wildl. Conf. Trans. 15:512-517.

80. Smith, Arthur D., and Richard L. Hubbard.
1954. Preference ratings for winter deer forages from northern Utah ranges based on browsing time and forage consumed. J. Range Manage. 7:262-265.

81. Smith, Justin G.
1949. Deer forage observations in Utah. J. Wildl. Manage. 13:314-315.

82. Smith, Justin G.
1952. Food habits of mule deer in Utah. J. Wildl. Manage. 16:148-155.

83. Snyder, Emery T.
1937. Winter food habits of mule deer on the Cache National Forest. B. S. Thesis, 49 p., Dep. Wildl. Manage., Utah State Agric. Coll., Logan.

84. Snyder, Nathan.
1936. A study of concentrations and food habits of mule deer on certain sections of the Cache National Forest. B.S. Thesis, 31 p., Dep. Wildl. Manage., Utah State Agric. Coll., Logan.

85. South, Phil.
1955. Special studies—mule deer food habits. Mont. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-35-R-6, WP-2, Vol. VI(2):64-69.

86. South, Phillip R.
1957. Food habits and range use of the mule deer in the Scudder Creek area, Beaverhead County, Montana. M. S. Thesis, 34 p., Mont. State Coll., Bozeman.

87. Stewart, Robert H.
1960. Deer food habits study. N.M. Dep. Game and Fish Fed. Aid Completion Rep. Proj. W-75-R-8, WP-13, J-5, 33 p.

88. Taylor, James R.
1963. Deer food habits studies. N.M. Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-96-R-4, J-4, 12 p.

89. Thiessen, Jerold.
1970. Big game condition and rumen sample analysis. Idaho Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-85-R-20, J-20, 14 p.

90. Thiessen, Jerold L.
1970. Mule deer ecology—collection of life table data: Physical condition analysis. Idaho Dep. Fish and Game Fed. Aid Completion Rep. Proj. PR-140-R-1, Study I, J-1 and 2, 23 p.

91. Trout, Lester E.
1964. Idaho big game harvest, census and range study: Range evaluation and improvement study—Part 3, Food habits studies. Idaho Dep. Fish and Game Fed. Aid Completion Rep. Proj. W-85-R-15, J-3, 16 p.

92. Trout, Lester E.
1970. Big game rumen sample analysis. Idaho Dep. Fish and Game Fed. Aid Completion Rep. W-141-R-1, J-1, Study 11, p. 7-11.

93. Trout, Lester E., and Jerold L. Thiessen.
1968. Food habits and condition of mule deer in Owyhee County. West. Assoc. State Game and Fish Comm. Proc. 48:188-200.

94. Wallmo, O. C., and R. Bruce Gill.
1973. Middle Park deer study—physical characteristics and food habits. Colo. Div. Wildl. Fed. Aid Completion Rep. Proj. W-38-R-27, WP-14, J-4. (In press.)

95. White, Keith L.
1958. Summer range ecology of Rattlesnake Creek mule deer in the spruce-fir zone. M.S. Thesis, 95 p., Univ. Mont., Missoula.

96. Wilkins, Bruce T.
1957. Range use, food habits, and agricultural relationships of the mule deer, Bridger Mountains, Montana. J. Wildl. Manage. 21:159-169.

97. Williamson, Clarence E.
1950. Comparative forage utilization between mule deer and domestic livestock. M.S. Thesis, 87 p., Univ. Wyo., Laramie.

98. Wing, Larry Dean.
1962. Big game and livestock browse utilization and feeding habits on a sandy range in southeastern Idaho. M. S. Thesis, 89 p., Univ. Idaho, Moscow.

99. Wright, J. T., and O. N. Arrington.
1950. The cooperative Kaibab North livestock-deer forage relationship study. Ariz. Game and Fish Dep. Fed. Aid Completion Rep. Proj. W-27-R-1, 2, and 3, 223 p.

Table 1. Seasonal composition of shrubs and trees, forbs, and grass and grasslike plants in data from selected references

State	Literature citation	Kind of data [1]	Percent composition: Shrubs & trees	Forbs	Grasses & grasslikes	Other [2]	Total
		Winter [3]					
Montana	17	U	62	29	7		98
"	19	O	79	6	15		100
"	30	S	60	40	0		100
"	49	U	71	27	2		100
"	51	U & S	96	4	0		100
"	59	S	78	20	1		99
"	60	U	87	10	2		99
"	61	S	75	24	1		100
"	67	S	27	20	53		100
"	70	S	48	37	15		100
"	72	S	37	43	20		100
"	75	U	73	22	5		100
"	86	S	90	9	0		99
"	96	S	66	18	14		98
Idaho	91	S	62	2	32	3	99
Montana, Idaho & N.E. Washington	24	S	89	5	5	1	100
Wyoming	97	U	77	17	6		100
Colorado	8	S	98	2	0		100
"	9	S	94	4	2		100
"	10	S	100	0	0		100
"	14	S	97	2	1		100
California	54	S	61	7	32		100
"	55	S	72	5	23		100
"	56	S	84	0	16		100
Arizona	[4]69	T	67	22	11		100
"	[5]69	T	51	21	28		100
		Spring [3]					
Montana	30	S	59	24	17		100
"	53	S	41	21	38		100
"	60	U	52	35	13		100
"	61	S	37	30	33		100
"	67	S	6	30	64		100
"	70	S	29	39	31		99
"	72	S	37	43	20		100
"	86	S	61	27	11		99
"	96	S	24	40	37		101
Colorado	8	S	92	4	4		100
"	13	S	58	0	42		100
"	14	S	79	9	12		100
California	54	S	29	36	35		100
"	55	S	67	8	25		100
"	56	S	86	1	13		100
Arizona	[4]69	T	46	32	22		100
"	[5]69	T	29	40	31		100
		Summer [3]					
Montana	30	S	42	57	1		100
"	49	U	60	40	0		100
"	51	U & S	51	47	0		98
"	59	S	20	66	2	12	100
"	60	U	43	56	0		99
"	61	S	12	66	22		100

See footnotes at end of table, p. 12.

Table 1. Seasonal composition of shrubs and trees, forbs, and grass and grasslike plants in data from selected references (continued)

State	Literature citation	Kind of data [1]	Percent composition: Shrubs & trees	Forbs	Grasses & grasslikes	Other [2]	Total
		Summer (continued) [3]					
Montana	67	S	36	62	2		100
"	70	S	95	3	2		100
"	86	S	22	75	2		99
"	95	S	64	34	0	2	100
"	96	S	19	77	3		99
Colorado	14	S	94	6	0		100
California	54	S	54	35	11		100
"	55	S	80	20	0		100
Arizona	[4] 44	O				[6] 66	
"	[4] 69	T	42	54	4		100
"	[5] 69	T	52	45	3		100
		Fall [3]					
Montana	51	U & S	58	39	2		99
"	59	S	44	53	3		100
"	61	S	44	53	3		100
"	67	S	3	78	19		100
"	70	S	46	35	19		100
"	86	S	73	21	6		100
"	96	S	73	24	3		100
Wyoming	2	S	60	34	6		100
"	3	S	5	73	22		100
North Dakota	63	S	86	7	5	2	100
So. Dakota & Wyoming	42	S	76	14	6	4	100
Colorado	14	S	97	3	0		100
Utah	47	S	83	10	7		100
Oregon	35	S	70	5	12	12	99
California	54	S	71	5	24		100
"	55	S	86	9	5		100
"	56	S	86	2	12		100
Arizona	[4] 62	S	60	33	7		100
"	[4] 69	T	23	65	12		100
"	[5] 69	T	58	40	2		100

[1] S = Stomachs; O = Feeding observations of wild deer; T = Feeding observations of tame deer; U = Ocular judgments of plant use.

[2] Lichens, mushrooms, unidentified material, or crops.

[3] Winter = December, January, February; Spring = March, April, May; Summer = June, July, August; Fall = September, October, November.

[4] Data from the pinyon-juniper type.

[5] Data from the ponderosa pine type.

[6] Sixty-six percent of the diet between August 1 and 15 was comprised of mushrooms.

Table 2. Shrubs and trees reported as foods of Rocky Mountain mule deer

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Abies				1	3
Abies concolor	- 3	- 3, 1	* 4, 2	- 1, 2	44,55,62,73,87,88,89,35,54,55,87
Abies lasiocarpa	1		3	1	65,94,95
Acacia greggii	1	1	1		69
Acer	- 1	- 1		1	83,45
Acer glabrum	* 1, 5	1	+ 2, 1	3	49,75,78, 5,11,15,52,88,94,97
Acer grandidentatum	- 2, 2		+ 1		71,77,78,37,80
Acer negundo	1	+ 1		+ 1	33,34,34
Alnus	2	1		+ 1	52,15,52,88
Alnus sinuata	2		- 1		96,91,96
Alnus tenuifolia	+ 2, 1		+ 1, 1	1	7,65,95,11,25,94
Amelanchier	+ 1, 1		+ 2	+ 2, 2	42,74,82,93,15,93,99
Amelanchier alnifolia	+ 21, 3	+ 12, 3	+ 13, 2	+ 9, 4	4, 8, 9,10,11,12,14,18,22,23,26, 27,28,30,38,46,48,49,50,52,54,61, 75,77,78,79,80,83,94,97,98, 5,29, 35,54,55,56,61,63,82,91
Amelanchier utahensis	+ 1, 2	- 1, 2	1	1	64,68,69,99
Arceuthobium		1	- 1	- 1	99,99
Arceuthobium campylopodum	1		1	1	54,55,56
Arceuthobium vaginatum		1	1		69
Arctostaphylos			- 1	1	54,99
Arctostaphylos patula	+ 2	+ 2	+ 1, 1	+ 4, 1	35,47,54,55,56,54,88
Arctostaphylos pungens	1	2	1		69,99
Arctostaphylos uva-ursi	+ 5, 6	+ 7, 1	5	+ 3, 5	7,18,19,42,49,59,75,86,88,94, 2, 5,11,15,49,52,59,65,86,88,94
Artemisia	* 7, 1	+ 7	+ 4, 1	+ 7, 3	22,23,26,27,28,29,33,39,47,65,72, 74,99,16,32,52,94
Artemisia arbuscula #	+ 4, 1	+ 2		+ 2	37,58,77,93,25
Artemisia cana	* 7, 1	+ 6, 1	+ 2, 1	+ 11, 2	3,16,30,32,33,34,40,47,51,57,60, 63,82, 2, 7,33,35,51
Artemisia tridentata	* 47, 3	* 30, 1	- 2, 5	+ 17, 5	1, 3, 5, 7, 8, 9,10,11,12,13,14, 15,17,18,21,25,30,31,34,35,37,40, 43,45,48,49,51,54,55,56,57,58,60, 62,64,68,71,72,73,77,80,82,83,84, 85,86,89,90,91,92,93,94,96,97,98, 99, 2,16,33,34,54,55,63,65,86,94, 99
Artemisia tripartita	+ 3	+ 2		- 1	85,86,89
Atriplex	- 1, 1	1	+ 1	1	40,73, 1, 2,39
Atriplex canescens	- 1, 1	1	+ 1, 1	- 2, 2	54,62,99, 3,28,39,99
Atriplex confertifolia	+ 2	- 3		- 1, 1	8,14,51,68,22
Atriplex nuttallii	- 2	1	- 1, 1		30,60,60
Berberis #	1		- 1	1	55,15,54
Berberis fremontii	1	1		1	99
Berberis haematocarpa		1			87
Berberis repens #	+ 15, 8	+ 8, 8	- 5, 9	+ 12, 7	7, 9,10,11,12,14,23,33,42,46,47, 49,50,52,59,64,70,72,78,79,82,89, 92,93, 1, 2, 3, 8,14,16,33,35,37, 40,44,59,65,68,69,70,83,84,89,93, 94,97,99
Betula		1		1	45
Betula glandulosa	+ 1		- 1	- 1	61,65,75
Betula occidentalis #	- 1, 2		+ 1, 1		78,86,85,91,97
Calliandra			1	1	87
Calliandra eriophylla	+ 1		+ 1	1	39,39
Caragana arborescens			* 1		53
Ceanothus				1	35
Ceanothus diversifolius				- 1	25
Ceanothus fendleri	+ 1, 1	+ 2, 1	+ 3, 1	- 2, 1	44,69,87,99,69,94,99
Ceanothus gregii	+ 1	- 1	+ 1	1	69,39
Ceanothus martinii			1	1	23
Ceanothus ovatus	1	1		* 1	66,66
Ceanothus prostratus	+ 4	+ 2, 1	- 2	+ 3	25,54,55,56,54
Ceanothus velutinus	+ 14	+ 7, 1	* 6, 1	+ 14, 1	2, 4,15,22,25,26,27,31,35,42,49, 50,52,54,55,56,71,75,77,78,90,92, 93,52,84,94
Cercocarpus	+ 6	1	* 2	* 1	8, 9,10,11,12,14,54,14

See footnotes at end of table, p. 17.

Table 2. Shrubs and trees reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Cercocarpus betuloides		* 1	- 1	+ 1	23
Cercocarpus breviflorus	* 1	* 1	+ 1	+ 1	69
Cercocarpus intricatus	1				99
Cercocarpus ledifolius	* 22	* 6, 6	+ 8, 2	* 13, 1	15,22,23,25,26,27,28,29,31,37,43, 47,48,54,55,56,58,71,74,77,78,80, 82,83,84,85,86,89,92,93,23,35,48, 54,55,56,86,89,93
Cercocarpus montanus	* 13	+ 2, 2	* 3, 1	+ 5, 2	3,20,37,39,47,48,64,65,71,74,77, 78,80,82,83,87,88,97, 2,39,68,87, 88
Chrysothamnus	+ 14, 2	- 7, 7	- 1, 3	+ 11, 2	2, 8, 9,11,12,14,21,22,23,33,34, 39,40,47,60,65,68,72,73,89,99, 1, 8,22,23,33,34,45,88,99
Chrysothamnus depressus	+ 1, 1			1	64,99
Chrysothamnus nauseosus	+ 23, 1	- 6, 4	- 3, 1	+ 4, 5	7,15,16,18,30,31,33,37,46,51,54, 55,57,58,60,64,71,77,80,82,83,85, 86,88,91,97,98,18,32,54,55,56,60, 84,86,90,94
Chrysothamnus parryi	1				94
Chrysothamnus pulchellus				1	99
Chrysothamnus viscidiflorus	+ 10, 1	+ 3, 4	1	+ 2, 3	17,35,48,55,57,58,60,64,86,94,98, 54,55,56,60,85,94
Coleogyne ramosissima				1	23
Cornus stolonifera	+ 3, 2	1	* 3	+ 3	5,17,30,75,78,82,15,17,18
Cotoneaster acutifolia			* 1		54
Cowania mexicana #	* 8, 1	* 2, 2	+ 4, 1	* 4, 1	23,29,39,48,62,69,73,77,78,80,82, 99,23,69
Crataegus			+ 1		49
Crataegus douglasii			2	- 1	96,49,96
Dalea formosa			1		87
Elaeagnus angustifolia			* 1		53
Elaeagnus commutata	1		+ 1	- 1	30,30
Ephedra	- 2, 1	+ 1		- 1	64,73,82,82
Ephedra nevadensis	- 1, 1	1			29,22,28
Ephedra viridis	* 1, 1	- 1	1	+ 1, 1	8,14,99,99
Eurotia lanata	- 1, 2	+ 1	+ 2	1	13,40,53,64,97,99
Fallugia paradoxa	+ 1, 1	2	- 1, 2	2	53,99,39,87,99
Fendlera rupicola #		1		1	69,99
Fendlerella utahensis				1	99
Forestiera neomexicana		1	1	1	69
Forsellesia = Glossopetalon	- 1, 1				59,99
Forsellesia nevadensis = Glossopetalon nevadensis	1			1	99
Fraxinus pennsylvanica #				1	42
Garrya wrightii	1	1	* 1, 1	+ 1	39,69
Glossopetalon = Forsellesia	- 1, 1				59,99
Glossopetalon nevadensis = Forsellesia nevadensis	1			1	99
Holodiscus #	2	- 1			83,11
Holodiscus dumosus	- 1	- 1	- 1	+ 1	37,88
Jamesia americana	- 1	- 1	- 1		88
Juglans major				1	84
Juniperus	+ 14, 2	+ 9, 1	- 2, 2	+ 4, 6	8, 9,10,13,14,30,33,39,40,41,66, 68,71,74,83,84,87,99, 1, 2,11,16, 30,33,39,66,87,99
Juniperus communis	+ 8, 6	+ 6, 2	2	+ 3, 5	7,17,30,34,40,42,49,59,75,86, 3, 11,12,19,30,40,63,65,85,94,97,99
Juniperus deppeana	+ 2	+ 1, 1	2	- 1	69,87,69,87
Juniperus horizontalis	* 7	* 4		+ 2, 1	7,30,34,49,59,61,63,75,16
Juniperus occidentalis	+ 7, 1	+ 3, 1	- 1	+ 4, 1	15,21,31,35,54,55,57,93,25,55
Juniperus osteosperma #	+ 11, 3	* 4, 3	- 1, 2	+ 4, 1	22,23,28,29,37,43,48,62,64,73,77, 82,99,22,69,80,99
Juniperus scopulorum	+ 16, 3	+ 8, 3	- 1, 1	+ 4, 4	5,17,18,19,30,33,37,45,49,60,65, 72,77,80,85,86,88,96,98,16,17,60, 84,86,88,94,96,97

See footnotes at end of table, p. 17.

Table 2. Shrubs and trees reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Libocedrus decurrens	- 1	1	2	2	56,54,55,56
Linnaea borealis #				1	42
Lonicera	1		* 1		53,11
Lonicera arizonica			1		44
Lonicera involucrata			+ 1, 1	1	78,94
Menziesia ferruginea #			+ 1	+ 1	52,95
Pachystima myrsinites #	* 2, 3	- 1, 3	+ 3, 2	+ 5, 1	3, 8,14,47,54,74,78,92,94,10,11, 15,87,88,94,99
Petrophytum caespitosum	- 1				37
Philadelphus lewisii	- 1, 3	+ 1	- 1, 1	* 1	70,96,15,70,91,96
Phoradendron			1	1	39
Phoradendron juniperinum #	1	- 1, 1	1	- 1, 1	15,62,87
Phoradendron villosum		- 1			69
Physocarpus malvaceus		- 1	+ 2, 1	+ 2, 1	52,78,81,82,52,82
Physocarpus monogynus				1	88
Picea			- 1, 1	1	73,65,99
Picea engelmannii			1		94
Pinus	1		2	2	16,32,39,65,99
Pinus albicaulis			1		95
Pinus banksiana	+ 1	+ 1			66
Pinus contorta	- 1, 2	+ 2, 1	- 1, 4	- 1, 3	7,19,65,76,94, 3,17,25,35,76,91, 94,95,97
Pinus edulis	+ 8, 1	+ 6, 2	3	- 3, 1	8, 9,10,13,14,62,64,73,87,88,99, 14,68,69,87
Pinus flexilis	- 2	3	1	1	17,86, 3, 7,85,87
Pinus monophylla	+ 3	+ 3	+ 1		23,28,29
Pinus ponderosa	+ 17, 1	+ 10, 3	- 3, 5	+ 5,10	5, 7,15,18,33,34,39,40,44,51,59, 54,55,65,66,69,70,73,87,88,89,34, 35,42,45,54,55,56,59,69,70,87
Pinus sylvestris	1				66
Populus	1	+ 2	+ 1	+ 2	16,33,45,72,65
Populus acuminata	1		- 1		88,88
Populus angustifolia	- 1, 1			+ 1	12,88,11
Populus deltoides				- 1	63
Populus sargentii				+ 1	61
Populus tremuloides	+ 12, 3	+ 5, 2	+ 18, 4	* 16, 4	1, 7,10,11,12,14,17,26,27,30,35, 37,39,44,46,47,48,49,52,59,61,65, 71,73,75,76,78,79,82,86,88,92,93, 94,97,99, 3,15,27,42,54,55,56,61, 63,65,69,87,94
Populus trichocarpa	- 1, 1		- 1	- 1	96,91
Potentilla fruticosa	- 1, 1	1	1		86,11,69,94
Prosopis juliflora			1	1	69
Prunus	1	+ 1, 1	- 2, 2	- 3, 4	33,63,66,81, 3,32,35,55,69
Prunus americana				+ 1	33
Prunus andersonii	- 1, 1	+ 2		- 1	28,55,56,55
Prunus emarginata	3	+ 1, 1	+ 4	+ 3, 1	22,27,55,93,15,27,91,92,93
Prunus fasciculata			* 1		54
Prunus virginiana #	+ 20, 6	+ 15, 9	+ 24, 2	+ 20, 2	4, 7, 8,11,12,14,16,17,20,22,23, 26,27,30,34,37,46,48,49,50,51,52, 54,55,56,60,61,64,65,67,70,75,76, 77,78,79,80,82,86,88,90,91,92,93, 94,96,98, 9,14,15,18,27,30,49,54, 55,60,61,70,83,84,87,93,94
Pseudotsuga menziesii #	+ 23, 3	+ 15, 2	- 2, 2	+ 9, 4	1, 5, 7,11,14,15,17,18,19,34,37, 39,41,44,45,49,58,59,60,65,67,70, 72,75,86,88,89,96,97,99, 5,14,34, 59,70,71,86,94,96,99
Ptelea		1	1		69
Purshia glandulosa	* 2	+ 2	* 1	* 1	23,28
Purshia tridentata	* 35	+ 14, 4	* 10, 1	* 14, 2	1, 2, 8,11,12,13,14,15,20,21,22, 25,27,29,31,35,37,43,47,48,53,54, 55,56,57,58,64,65,71,74,77,78,79, 80,82,83,89,90,91,92,93,94,96,97, 98,26,54,68,84,92,94,99

See footnotes at end of table, p. 17.

Table 2. Shrubs and trees reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Quercus	* 1		* 1	* 1	39
Quercus chrysolepis	- 1				73
Quercus gambellii	+ 13, 1	+ 5, 2	* 9	* 10	8, 9,10,11,14,38,47,48,62,64,69, 73,77,78,80,82,87,88,99,88,99
Quercus kelloggii	1	1	1	+ 1	55,55
Quercus macrocarpa				- 1	42
Quercus turbinella	+ 1	+ 1	- 1	1	69,69
Quercus undulata	+ 2	+ 1, 1	* 1, 1	* 1, 1	69,87,69
Quercus vaccinifolia				* 1	25
Rhamnus crocea	+ 1	- 1	- 1		69
Rhus			* 1		33
Rhus glabra #	- 1, 1	1	* 1	1	78,83,42,71,83
Rhus radicans #	1	1	1		66,69
Rhus trilobata	+ 9, 5	+ 4, 1	* 8, 2	* 10, 5	11,16,23,30,32,33,34,39,40,51,53, 60,63,64,65,75,82, 2,28,34,39,69, 87,88
Ribes	- 3, 7	- 1, 7	+ 7, 6	- 5, 3	17,18,35,36,44,52,56,64,78,79,85, 88,93, 5, 7,11,12,15,16,17,20,33, 45,65,69,86,87,88,93,95,97,99
Ribes aureum			+ 2	- 1, 1	25,30,78,30
Ribes cereum	- 1, 1	2		1	65,52,94
Ribes coloradense				1	94
Ribes lacustre				1	94
Ribes leptanthum			1	1	94
Ribes nevadensis				- 1	25
Ribes setosum			- 2	- 1	30,96
Robinia	1				91
Robinia neomexicana		1	- 1, 3	2	44,69,87,99
Robinia pseudoacacia			* 1		53
Rosa	- 6,14	+ 8, 3	+ 17, 7	+ 17, 7	4,14,23,26,30,32,33,34,36,40,42 46,49,59,60,61,63,64,65,66,76,78, 79,81,82,85,88,93,97, 2, 3, 7,11, 12,14,15,16,22,27,33,34,49,52,59, 60,65,69,75,83,86,88,91,99
Rosa acicularis #	- 2, 1	3	- 2	- 2	17,94,96,17,94,96
Rosa arkansana			+ 1	- 1	51
Rosa californica	1	- 1	1	+ 1	55,55
Rosa woodsii #	- 1, 1		- 1, 1	1	37,44, 5, 7,99
Rubus		- 1	+ 2, 2	1	76,96,44,94,99
Rubus neomexicanus			1		44
Rubus parviflorus		1	+ 1, 1	1	78,14,94
Rubus strigosus			1		44
Salix	- 8, 8	- 6, 3	+ 9, 3	+ 9, 5	3,12,17,22,30,42,52,55,56,63,65, 66,72,75,76,82,83,86,88,93,94,95, 2, 7,11,15,16,27,35,55,65,66,69, 87,88,91,92,93
Salix anglorum			1		94
Salix bebbiana			* 1		78
Salix brachycarpa			+ 1		94
Salix exigua	- 2		* 1		77,78,80
Salix scouleriana			* 1		78
Sambucus	- 1		- 2, 2	- 3, 1	52,81,83,93,27,65,92
Sambucus coerulea #	- 2, 1		* 2	* 1, 1	77,78,80,82,15,23
Sambucus racemosa #			+ 1, 2	1	78,44,94
Sarcobatus vermiculatus	+ 2, 2	- 1, 1		1	30,60,15,60,94
Shepherdia		- 1	- 1		40
Shepherdia argentea	1	1	* 2	+ 2, 1	30,53,63,16,30
Shepherdia canadensis	- 3, 4	- 3, 1	- 4	- 2, 1	2,17,19,49,65,75,86,88,94,15,52 85,97
Sorbus			+ 1	+ 1	52
Sorbus scopulina			* 2		78,95
Spiraea	2				15,83
Spiraea betulifolia	- 2, 1		+ 1, 1	+ 1	5,49,49,75
Spiraea densiflora			1		95
Symphoricarpos	+ 7, 7	* 5, 2	+ 12, 4	+ 10, 6	3, 8,11,14,16,30,33,40,46,51,58, 59,60,65,75,78,79,87,92,95, 2, 9, 14,15,20,30,35,54,59,61,88,97,99

See footnotes at end of table, p. 17.

Table 2. Shrubs and trees reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Symphoricarpos albus	- 3, 3	+ 3, 1	+ 3	+ 5, 1	5,16,17,30,32,34,36,52, 5, 7,17, 36,86
Symphoricarpos longiflorus		- 3	- 1, 2	- 4	22,23,26,27,23,27
Symphoricarpos occidentalis	+ 3	* 2	+ 2	+ 5	30,42,63,66,67,96
Symphoricarpos oreophilus #	- 4, 1	1	+ 3	+ 3, 1	37,47,48,64,82,93,94,98,93,94
Symphoricarpos parishii			- 1		44
Tetradymia canescens	+ 4, 1	- 2, 1		1	17,59,64,85,86,69,86,94
Vaccinium	+ 1, 1		+ 1		65,78,15
Vaccinium membranaceum		1	* 3	* 1	52,95,96,52
Vaccinium myrtillus			* 1	* 1	94
Vaccinium scoparium		1	+ 2, 1	* 1, 4	86,94,35,42,59,88
Vitis arizonica			1		69
Yucca	+ 3	2	- 1	- 3, 1	33,39,40,51,40,88,99
Yucca baccata	1				99
Yucca elata		1			87
Yucca glauca	* 4, 2	* 3, 2	- 3	+ 4, 1	16,30,33,40,51,60,63,66,11,32,40, 60

1
Some plants are listed by two names. Example: Species A = Species B. These are plants with synonymous scientific names which are both used commonly. Those plants marked with # were listed by another less common name or archaic synonymy in some of the original food habits studies. See Table 6 for synonymy.

2
Entries consist of three parts. The first is a symbol which reflects the amount consumed relative to all species reported in those studies where it comprised at least 1 percent of the diet. It is based on an average of the amounts reported, but avoids precise numerical quantification: - = Light; + = Moderate; * = Heavy. The second part (underlined) is the number of literature citations upon which the ranking is based. The third part is the number of citations in which the plant was recorded as a trace amount or comprising less than 1 percent of the diet.

3
Underlined numbers indicate literature citations on which value rankings are based. Those not underlined denote literature where a plant was reported as a trace amount or comprising less than 1 percent of the diet. In many cases a number may appear once underlined and again not underlined for an individual species. This would indicate a plant comprised more than 1 percent of the diet during one or more seasons of the year, and contributed a trace or less than 1 percent during another season in the same report.

Table 3. Forbs reported as foods of Rocky Mountain mule deer

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Achillea millefolium #	- 2, 6	- 5, 6	- 4, 7	- 1, 8	17,44,48,49,79,83,88,90,96, 5,15, 18,33,40,42,46,49,52,54,65,69,86, 87,91,94,96,99
Actaea arguta			+ 1	+ 1	82
Agastache urticifolia			+ 2		46,78,23
Agave	1		1		69
Agoseris	3	- 3, 1	- 1, 2	1	69,76,86,99,33,69,86,91,99
Agoseris glauca			+ 4	1	36,44,78,96,94
Allium		- 1, 1	2		22,54,69
Allium cernuum		+ 1			76
Allium textile		+ 1			60
Alyssum alyssoides	- 1		1		49,49
Amaranthus	1	1	2	4	3,32,54,69,87
Ambrosia psilostachya	1		1	1	69
Anaphalis margaritacea		1	2	1	94,99
Androsace septentrionalis			- 1		44
Anemone			- 1		87
Anemone patens = *Pulsatilla ludoviciana* #	1	- 3, 1	+ 2, 3		34,36,61,76,65,88,94
Angelica arguta			1		96
Angelica grayi			1	1	94
Antennaria	- 2, 3	+ 4, 1	4	- 3, 2	7,18,33,42,45,49,72,99,16,49,53, 65,69,99
Antennaria aprica		- 1			88
Antennaria microphylla		- 1		- 1	96
Antennaria parvifolia	- 2, 1	1	- 1	1	19,49,94
Antennaria racemosa		1	+ 2		59,17
Antennaria rosea	+ 2			1	5, 7,94
Apocynum			* 1		78
Apocynum medium	1				75
Aquilegia		1	+ 2	- 1	78,88,88
Aquilegia caerulea			1	1	94
Arabis				1	94
Arabis drummondii	1		1	1	94
Arabis perennans		- 1			69
Arenaria			2	1	99
Arenaria confusa			1		94
Arenaria congesta	- 2		1	1	5,49,18,49
Arenaria fendleri		1			99
Arenaria hookeri	1				7
Arenaria nuttallii		1			86
Arenaria obtusiloba			1		94
Arenaria saxosa			- 1		44
Arnica			+ 2, 1		59,78,99
Arnica cordifolia			+ 4	- 3	36,82,86,94
Arnica foliosa = *A. chamissonis*			- 1		44
Arnica latifolia			1		95
Arnica mollis			1	1	94
Arnica sororia		1			5
Artemisia	1	1	1	1	99
Artemisia biennis	- 1				52
Artemisia campestris #	- 1				96
Artemisia carruthii	1	2	2	1	69,87,99
Artemisia dracunculus #	- 2	- 1	- 1, 1		30,75,69
Artemisia frigida	+ 12, 5	- 6, 5		- 6, 3	5, 7,17,18,30,33,34,40,49,51,59, 60,65,67,70,72,75,11,16,18,19,20, 45,60,86,88,94
Artemisia longifolia	+ 2	1	1	* 1	30,60,60
Artemisia ludoviciana #	- 4, 3	- 1, 3	5	- 3, 6	20,33,34,49,60,87,96, 7,16,33,49, 60,69,87,94,95,96,99
Artemisia michauxiana	+ 1	- 1			17
Artemisia scopulorum			1		94
Aster	+ 5, 3	- 1, 4	+ 9, 1	+ 3, 2	7,40,48,51,52,59,60,75,78,81,86, 88,90, 7,59,69,90,94,99

See footnotes at end of table, p. 26.

Table 3. Forbs reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Aster campestris				1	94
Aster canescens				1	69
Aster chilensis	- 1		* 2		46,48,79
Aster conspicuous			- 1		76
Aster engelmannii			+ 1	+ 1	81
Aster falcatus #	- 3, 1	4	- 1, 2	- 3	30,49,60,69,30,49,60,69
Aster foliaceus	1	1	+ 1		49,49
Aster laevis			+ 1		95
Aster modestus			+ 1		96
Aster occidentalis			- 1		51
Astragalus	3	3	+ 5, 2	- 2, 2	30,44,51,62,76,99, 7,16,30,65,69, 99
Astragalus cibarius			+ 1		78
Astragalus convallarius	1	1		1	82,94
Astragalus drummondii	- 2		- 2		30,51,75,96
Astragalus flexuosus #		1			99
Astragalus gilviflorus			- 1	- 1	30
Astragalus missouriensis	- 1				75
Astragalus pectinatus	- 1				30
Astragalus recurvus		+ 1	+ 1		69
Astragalus straturensis			+ 1		48
Astragalus tephrodes	1	- 1	1	1	69,69
Astragalus vexilliflexus			- 1		86
Atriplex	1		1	1	99
Bahia				1	87
Bahia dissecta			1		69
Balsamorhiza			- 1	+ 1, 1	3,54, 2
Balsamorhiza sagittata	+ 11, 5	+ 6, 5	+ 6, 2	+ 13, 2	17,18,26,27,36,48,49,51,52,54,55, 59,67,70,75,78,82,90,92,93,94,96, 15,22,26,27,28,49,54,59,86,90,94
Besseya wyomingensis		+ 1			49
Brassica campestris			1		94
Brickellia			1	1	99
Brodiaea pulchella #		1			69
Calochortus		1			99
Calochortus gunnisonii			- 1		49
Calochortus nuttallii			1		23
Caltha leptosepala			- 1, 1	1	65,94
Campanula		1			88
Campanula rotundifolia			- 2		36,88
Capsella bursa-pastoris	1				69
Castilleja	1	1	+ 4, 2	- 1, 2	48,76,79,93,25,69,92,94
Castilleja flava	1				94
Castilleja linariaefolia	- 1		* 1	+ 1	48,82
Castilleja miniata #			- 2		44,96
Castilleja occidentalis			1		94
Castilleja rhexifolia				1	94
Castilleja septentrionalis #			1		94
Cerastium arvense	- 2	- 1, 1	1	1	49,96,49,96
Chaenactis douglasii	+ 1, 1				48,91
Chenopodium		1	1	6	2,20,32,65,87,99
Chenopodium album #	1		2	3	23,35,69,99
Chenopodium capitatum			- 1		44
Chrysopsis	1				65
Chrysopsis villosa	- 2, 1	- 2	* 1	* 2	17,30,67,70,75
Cirsium	+ 2, 7	6	+ 2, 3	+ 8, 5	34,54,59,60,62,67,70,82, 1,29,33, 40,54,56,59,65,69,75,87,94,99
Cirsium arvense	1	1			86
Cirsium drummondii				1	94
Cirsium undulatum				+ 1	51
Cirsium wheeleri			1		44
Claytonia lanceolata		- 2			49,96
Clematis	2	- 1, 1	- 1	1	49,83,49,65,83,94
Clematis columbiana			- 1		49
Clematis hirsutissima			- 1	1	49,94
Clematis ligusticifolia	1	1	+ 1		78,91,99
Clematis pseudoalpina	- 1			1	88,88

See footnotes at end of table, p. 26.

Table 3. Forbs reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Collinsia			2		54,55
Collinsia parviflora	1				91
Collomia			2		35,56
Collomia linearis		1	- 1		51,99
Comandra umbellata #	1	+ 2, 2	+ 2, 1	2	40,60,23,60,69,94,99
Commelina dianthifolia	1				69
Conringia orientalis			- 1		30
Convolvulus	1				65
Conyza canadensis = *Erigeron canadensis*	1		1		69
Cordylanthus	+ 1		1	1	99,54,99
Cordylanthus ramosus	- 1	1		1	86,86,92
Cordylanthus tenuifolius	- 1	1	1		69,69
Crepis			+ 1		96
Crepis accuminata	- 1	- 2, 1	1		22,26,23,27
Cryptantha				2	2,56
Cuscuta				1	35
Cymopterus	1	2	1		69,99
Cymopterus bipinnatus	1	+ 1			86,86
Cymopterus purpurascens		1			99
Cynoglossum officinale	- 1				49
Dalea albiflora	1	1	- 1	1	69,69
Delphinium		+ 1, 2	1		76,69,99
Delphinium barbeyi				* 1	47
Delphinium bicolor		- 2	+ 1		36,49,96
Delphinium occidentale			- 1	1	96,94
Descurainia		1	+ 1		78,69
Descurainia californica				1	99
Descurainia pinnata #	1	+ 1	2	2	23,23,96
Desmanthus cooleyi			- 1	- 1	69
Douglasia montana		1			86
Draba		1			99
Draba cuneifolia		1			69
Draba oligosperma		1			86
Draba verna		1			54
Dryas octopetala			1		94
Dyssodia papposa			1		87
Epilobium			+ 3, 1		52,65,86,54
Epilobium angustifolium		+ 1	+ 3	- 1, 1	76,94,95,76
Epilobium hornemannii			1		94
Epilobium lactiflorum			1	1	94
Epilobium paniculatum	1	1	- 1	- 1	69,69
Erigeron	- 2, 5	+ 2, 4	- 6, 4	- 1, 3	17,59,62,69,79,86,87,93, 5,18,65, 69,87,93,94,99
Erigeron caespitosus	- 1				49
Erigeron canadensis = *Conyza canadensis*	1		1		69
Erigeron compositus	2	2		2	5,18
Erigeron concinnus	1	1			82,99
Erigeron engelmannii	1				94
Erigeron flagellaris		1	+ 1	+ 1	44,99,99
Erigeron formosissimus #		1			99
Erigeron glabellus			- 1		96
Erigeron peregrinus			2	1	95,99
Erigeron pumilus		- 1			96
Erigeron simplex			1		94
Erigeron speciosus #	1		+ 2		36,49,69
Eriogonum	+ 5,14	- 10, 7	+ 7, 6	- 8, 7	7,22,23,26,27,28,29,34,40,55,59, 62,72,78,79,89,90,92,93,99, 1, 2, 3, 5, 7,15,22,23,29,34,35,45,54, 56,59,65,69,87,88,91,92,93,99
Eriogonum alatum		1			99
Eriogonum cernuum		1			99
Eriogonum flavum			+ 1		44
Eriogonum heracleoides	* 1				37
Eriogonum mearnsii	1	1		- 1	99,99

See footnotes at end of table, p. 26.

Table 3. Forbs reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Eriogonum multiceps	+ 2	1			7,30,30
Eriogonum ovalifolium		1			86
Eriogonum racemosum	- 1	- 1	+ 1	+ 1, 1	69,99
Eriogonum umbellatum #	- 2, 1	* 1, 2	- 2, 1	+ 1, 1	36,69,94,17,69,86
Eriogonum wrightii	+ 1	+ 1	- 1	* 1	69
Erodium	2	1		1	35,56,99
Erodium cicutarium	- 1, 1	2	+ 1, 1	1	78,91,54,69,99
Erysimum capitatum		1			69
Erysimum repandum		1			69
Erythronium grandiflorum		- 1			52
Euphorbia	1		2	6	2,16,32,35,69,87,99
Euphorbia albomarginata			1		69
Euphorbia capitellata			- 1	- 1	69
Euphorbia chamaesula		1	1	1	69
Euphorbia dentata			1		69
Euphorbia fendleri			1	1	69
Fragaria		2	- 1, 2	- 1, 3	35,54,18,52,54,65,99
Fragaria americana			1	1	94
Fragaria vesca #			+ 1		48
Fragaria virginiana #	- 1	2	- 1, 4	+ 1, 1	5,86,76,87,88,94
Frasera albicaulis		+ 1	- 1		86
Frasera speciosa = *Swertia radiata*	1	1	1	+ 2	42,92,65,69,99
Fritillaria atropurpurea		1			99
Fritillaria pudica		+ 2			60,96
Gaillardia aristata			- 1	1	96,96
Galium	2	3	2		69,87,99
Galium boreale	- 2		- 1		49,75
Galium wrightii			1		10
Gaura suffulta #		1	1		69
Gayophytum		1			99
Geranium	+ 1, 1	+ 3, 1	- 5, 3	+ 1, 1	34,59,61,69,76,78,92,65,76,99
Geranium fremontii			* 2, 1		46,79,44
Geranium richardsonii			+ 1, 1	1	48,94
Geranium viscosissimum		+ 2	+ 4		36,49,86,96
Geum rossii			- 1		94
Geum triflorum	2	- 4, 1	- 1, 1		18,34,36,49,59, 5,59,69
Gilia	- 1	1		- 1, 1	88, 2,99
Gilia candida	1				94
Gilia multiflora	1	1	1	1	69
Glycyrrhiza lepidota	- 1	- 1	* 2	+ 4, 1	30,33,51,60,16
Grindelia	1		1	1	16,65,69
Grindelia squarrosa	1	- 1			51,51
Gutierrezia	1	1	1	2	69,99
Gutierrezia sarothrae	6	+ 1	1	- 1, 1	62,87, 7,65,71,82,87,94
Hackelia			- 1		46
Haplopappus	1				99
Haplopappus acaulis	- 1	+ 1	+ 1		86,96
Haplopappus nuttallii	1			+ 1	33, 7
Haplopappus spinulosus				- 1	32
Hedeoma oblongifolium	1	1	1	1	69
Hedysarum		+ 1	* 1	1	76,76
Hedysarum sulphurescens			- 1		36
Helianthella uniflora	1		+ 2		79,86,86
Helianthus	+ 3	+ 2		2	30,65,66,83,42,99
Helianthus annuus	1	1	1	1	69
Helianthus nuttallii			+ 2		36,49
Heracleum lanatum	- 1	+ 1	- 2, 1		76,88,96,94
Hesperochiron			1		54
Heuchera		- 1		1	72,20
Heuchera cylindrica	1		- 1		49,49
Hieracium		1	- 1, 2		79,65,69
Hieracium gracile			1		94
Hieracium greenei				1	35
Houstonia wrightii		1	1		69
Hydrophyllum capitatum		- 1	* 1		48,83
Hymenopappus lugens	1	1	1	- 1	62,69
Hymenothrix wrightii	1		1		69

See footnotes at end of table, p. 26.

Table 3. Forbs reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Hymenoxys #		1		1	99
Hymenoxys acaulis	- 1				49
Hymenoxys richardsonii			- 1		44
Hypericum			+ 1	1	54,56
Hypericum formosum #			- 1		95
Idahoa scapigera = Platyspermum scapigerum		1		1	55,57
Ipomoea	1		1		69
Ipomoea coccinea				1	69
Ipomoea costellata				1	69
Iris			- 1		88
Iris missouriensis			- 1, 2		96,69,88
Lactuca	1		- 1	- 1	32,40,91
Lactuca pulchella			- 1		49
Lactuca serriola	3	- 1	+ 1	- 2	30,34,51,69,78,81,96,30,69,96
Lappula	1	1	2		94,99
Lappula redowskii		1			69
Lathyrus		- 1, 1	- 1	- 1	69,99
Lathyrus eucosmus		1			99
Lathyrus leucanthus		1	+ 1	- 1	46,94,94
Lathyrus ochroleucus		* 1	* 1		76
Lepidium		1	1	1	69,99
Leptodactylon pungens	1				65
Lesquerella	1	- 1, 1			99,65
Lesquerella alpina	1	1			86
Lesquerella arizonica	1				99
Lesquerella fendleri		1			87
Lesquerella gordonii		1			99
Lesquerella rectipes			1		44
Leucocrinum montanum #	1				65
Lewisia pygmaea			2		94,99
Lewisia rediviva		1			18
Liatris punctata	- 1				75
Ligusticum		1			86
Ligusticum porteri			* 1	+ 1	82
Linnaea borealis	- 1			+ 1	59
Lithophragma tenella #		1	1		99
Lithospermum ruderale	- 1		+ 2		75,78,79
Lomatium	2	* 2, 2	- 2	1	30,54,55,79,65,69,91,99
Lomatium foeniculaceum		+ 1			60
Lomatium nevadense		- 2			22,23
Lotus				- 1, 3	62, 2,87,99
Lotus humistratus		1			69
Lotus utahensis			- 1		44
Lotus wrightii	- 1, 1	- 1	+ 1, 1	- 1, 1	44,48,69,69,99
Lupinus	+ 5, 4	- 5, 6	+ 5, 4	+ 8, 6	2,17,22,27,29,35,45,47,48,52,62, 73,78,79,86,90,92,99, 3, 7,15,18, 22,26,33,42,45,52,55,65,69,86,87, 90,99
Lupinus argenteus	- 1	- 1	+ 3, 1	* 1, 1	48,82,96,96,99
Lupinus caudatus		- 1		1	5, 5
Lupinus greenei	1	1		1	94
Lupinus kingii		1	1		69
Lupinus palmeri			+ 1		44
Lupinus polyphyllus			- 1		36
Lupinus sericeus	- 1, 1	1	- 1	+ 1	5,49,75, 5
Marrubium vulgare	1			1	99
Medicago	+ 2, 2		* 1	* 3	16,33,60,65,60,91
Medicago lupulina	+ 1	- 1	+ 1		49,78
Medicago sativa	- 1, 3	+ 2, 1	* 6, 1	* 10, 1	2,16,30,32,38,49,51,55,61,63,69, 78,96,30,54,61,69,96
Melilotus	- 1, 1		* 2	+ 1, 1	39,55,65,78,42,91
Melilotus alba		+ 1	+ 1	- 1	1,32,44
Melilotus officinalis	+ 2, 1	+ 2, 1	* 3	* 1, 2	30,60,69, 2,30,69
Menodora	1	1	1	- 1	69,69
Mentha				+ 1	88

See footnotes at end of table, p. 26.

Table 3. Forbs reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Mertensia	1	- 1	+ 1, 1		88,65
Mertensia arizonica #			+ 1		82
Mertensia ciliata			1	1	94
Mertensia franciscana		1			99
Mertensia lanceolata	1	- 1			88,94
Micoseris nutans		- 1	1	1	60,60
Microsteris gracilis		1			69
Mirabilis linearis #			1		69
Mitella pentandra			1		94
Monarda			- 1		88
Monarda fistulosa	- 1				49
Monardella odoratissima #	1		1	2	3,69,99
Monoptilon bellioides		1			99
Montia perfoliata			1		56
Musineon divaricatum		+ 1			60
Myosurus aristatus		1			99
Nepeta cataria			+ 1		78
Nicotiana attenuata	- 1				22
Nolina microcarpa			1		69
Oenothera	1	1	1		69
Opuntia	5	1		- 1	66,28,65,66,94,99
Orthocarpus	1				69
Osmorhiza			- 1	- 1	36
Osmorhiza depauperata #			- 1, 1	- 1, 1	81,94
Oxalis		1			69
Oxalis grayi			1		69
Oxypolis fendleri			1	1	94
Oxyria digyna			1	1	94
Oxytropis	- 3	- 1	- 1, 1	1	5, 7,30,30,65
Oxytropis campestris			+ 1		76
Oxytropis lambertii			+ 1		30
Oxytropis sericea			+ 1		30
Paeonia brownii			1		55
Parnassia fimbriata			- 1		96
Pectis	1				87
Pedicularis		1	2		65,69
Pedicularis bracteosa			1	1	94
Pedicularis contorta			1		86
Pedicularis groenlandica		1	1		94,99
Pedicularis racemosa			+ 2, 2	1	78,79,94,95
Penstemon	+ 3, 6	+ 3, 6	- 4, 8	- 5, 5	22,23,26,40,52,65,70,78,82,92,95, 15,22,23,28,52,55,56,65,69,70,87, 94,99
Penstemon caespitosus	1	- 1		1	94,94
Penstemon cyaneus				1	5
Penstemon cyathophorus	1	1			94
Penstemon deustus			1		55
Penstemon linarioides	1	2	2	* 1, 2	62,69,99
Penstemon procerus			- 1		86
Penstemon thompsoniae	1	1		1	99
Penstemon virgatus			1		99
Penstemon watsonii	1		+ 1	- 1	82,94
Penstemon whippleanus			1		94
Pericome caudata				1	88
Perideridia gairdneri			+ 1		36
Petalostemon purpureum			- 1		30
Phacelia	1				65
Phacelia cryptantha	1			1	69
Phacelia hastata #	- 1, 1		1		96,91,96
Phacelia heterophylla #			- 1		44
Phacelia linearis				- 1	5
Phaseolus angustissimus		1	1	1	69
Phlox	- 4, 3	+ 8, 5	+ 4, 3	- 3, 7	22,23,26,28,29,34,35,40,45,55,72, 90,93, 2, 3,16,22,23,27,29,54,55, 87,92,99

See footnotes at end of table, p. 26.

Table 3. Forbs reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Phlox albomarginata	+ 1	+ 1			49
Phlox amabilis		1			99
Phlox austromontana #	1	1		1	99
Phlox bryoides = *P. muscoides*	+ 2	+ 2			86,94
Phlox douglasii	- 1			- 1	55
Phlox hoodii	- 5	+ 4, 3		+ 2, 1	7,17,30,33,51,59,60,18,30,59,60
Phlox kelseyi		1			88
Phlox multiflora	1	- 1		1	94,94
Phlox woodhousei		1	1		69
Physalis			2	- 1, 1	69,69,87
Plantago		1	1		88,99
Plantago major			1		99
Plantago purshii		2	- 1, 1		88,69,88
Platyspermum scapigerum = *Idahoa scapigera*		1		1	54,56
Polemonium			1		65
Polemonium albiflorum			+ 2		46,78
Polemonium viscosum			1		94
Polygonum	2	+ 2, 3	- 3, 6	- 3, 7	22,23,27,69,93, 2,16,22,23,26,27, 54,55,65,69,92,99
Polygonum aviculare	1	1	- 2		69,44,69
Polygonum bistortoides			- 1, 1		36,94
Portulaca oleracea			1	1	69
Potentilla	- 1, 1	- 1, 4	+ 6, 4	- 1, 1	46,49,59,65,78,79,86,99,45,52,59, 65,69,94,99
Potentilla concinna			1		94
Potentilla crinita			1		69
Potentilla diversifolia			2	- 1	88,86,94
Potentilla glandulosa				1	5
Potentilla gracilis = *P. pulcherrima*	2			2	7,18,88,94
Potentilla hippiana		1	1		88,94
Potentilla newberryi	* 1	* 1		+ 2	57
Potentilla norvegica			1		95
Potentilla subviscosa			1		44
Primula parryi			1		94
Pseudocymopterus		1	1		99
Pseudocymopterus montanus		1	+ 2		44,48,69
Psoralea				1	16
Psoralea lanceolata	1				94
Psoralea tenuiflora			1		69
Pterospora andromedea		1	1		69
Pulsatilla ludoviciana = *Anemone patens*	1	- 3, 1	+ 2, 3		34,36,61,76,65,88,94
Pyrola				- 1	94
Pyrola asarifolia				1	94
Pyrola minor				1	94
Ranunculus	1	1	5	1	22,54,55,65,69,87,99
Ranunculus californicus			- 1		55
Ranunculus cymbalaria			- 1		44
Ranunculus glaberrimus		- 2			49,96
Ranunculus orthorhinchus			+ 1		78
Ratibida columnifera			- 1		30
Rorippa nasturtium-aquaticum			+ 1		78
Rudbeckia				1	3
Rudbeckia occidentalis			+ 2		46,79
Rumex	+ 1, 1	2	- 3, 2	- 1, 2	26,33,57,78,79,27,54,69,94,99
Salsola kali #	- 1, 3	- 1, 1	1		74,83,54,69,91,99
Sanguisorba minor			1		44
Sanvitalia				1	87
Saxifraga arguta			1	1	94
Saxifraga bronchialis			1		94
Schoenocrambe linifolia #			1	1	87
Scrophularia lanceolata #			+ 1		78

See footnotes at end of table, p. 26.

Table 3. Forbs reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Sedum		1	1	2	7,35,52,65
Sedum stenopetalum #	- 1, 1	- 1, 1	1	1	49,42,86,65,95
Senecio		3	+ 1, 2	1	78,52,65,94,99
Senecio amplectens			1		94
Senecio canus	- 1		+ 1		49,51
Senecio crassulus			+ 1, 1	1	86,94
Senecio integerrimus	1				91
Senecio multilobatus	1			1	94
Senecio neomexicanus	1	- 1	1	- 1	69,69
Senecio serra			- 2		46,79
Senecio triangularis			1	1	94
Sibbaldia procumbens			1		94
Sidalcea			* 1		79
Sidalcea oregana			+ 1		78
Silene acaulis			1		94
Sisymbrium				1	32
Sisymbrium altissimum	+ 1		1	1	54,56,69
Smilacina			+ 1		78
Smilacina racemosa			* 1	* 1	81
Smilacina stellata		+ 1	- 1	1	76,94
Smilax herbacea #				1	42
Solanum				1	16
Solanum elaeagnifolium	1			1	87
Solidago	- 1, 2	2	+ 2, 4		49,78,65,69,94,99
Solidago missouriensis	+ 1	+ 1		- 1	17,30
Solidago petradoria	1	- 1			82,99
Solidago rigida	1			- 1	88,88
Sphaeralcea	2	2	2	+ 1, 2	62,69,87,99
Sphaeralcea coccinea				+ 1	60
Sphaeralcea grossulariaefolia		1	1	- 1	69,69
Streptopus amplexifolius			1	1	94
Swertia radiata = *Frasera speciosa*	1	1	1	+ 2	42,92,65,69,99
Taraxacum		+ 3, 2	+ 4, 4	+ 2, 2	51,69,76,88,93,16,54,55,65,69,88,99
Taraxacum ceratophorum		- 1	* 1		86
Taraxacum laevigatum			+ 1	- 1	36
Taraxacum officinale #	1	+ 2, 2	+ 9	- 1, 1	5,38,44,48,59,78,79,82,94,96,59,82,87,94
Tauschia	1				22
Thalictrum fendleri		2	+ 4, 2	1	46,48,78,79,44,69,94,99
Thalictrum occidentale				- 1	92
Thalictrum sparsiflorum			- 1		96
Thelypodium				1	69
Thermopsis divaricarpa #	1	1	1	1	69,87
Thermopsis montana #			1		54
Thlaspi	1	3	2		1,87,99
Thalaspi alpestre = *T. fendleri*			- 1, 1		44,94
Thlaspi arvense				1	32
Townsendia			1		99
Townsendia exscapa				1	69
Townsendia parryi			- 1		96
Tragia stylaris = *T. ramosa*			1		69
Tragopogon	1	+ 1, 1	* 2, 1	3	34,46,16,34,69
Tragopogon dubius	- 5, 2	- 1, 1	+ 8	+ 5, 1	17,30,36,49,51,60,61,81,96, 7,17,61
Tragopogon pratensis	1			1	5,32
Trifolium	2	- 3	* 3, 5	+ 2, 3	17,49,69,73,82,90,16,17,35,54,65,69,86,94,99
Trifolium andinum			+ 1		44

See footnotes at end of table, p. 26.

Table 3. Forbs reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Trifolium dasyphyllum			1		94
Trifolium longipes #			+ 2		48,86
Trifolium repens		+ 1	- 2	- 2	42,76,94
Trifolium wormskjoldii #			+ 1		44
Trollius laxus			2	1	65,94
Urtica dioica #			2		22,86
Valeriana			+ 1, 1		52,65
Valeriana dioica			- 1		36
Valeriana occidentalis			1		96
Valeriana sitchensis			+ 1		95
Veratrum				+ 1	52
Veratrum viride			- 1		95
Verbascum				1	35
Verbascum thapsus	1	1	1		69
Verbena macdougalii				1	99
Veronica americana		- 1			96
Vicia		- 1	2	4	69,33,65,69,92,94,99
Vicia americana	1	- 2	- 5, 2	- 3, 2	30,48,69,76,78,81,87,88,30,69,87, 88
Vicia cracca			+ 2		52,95
Vicia pulchella		1	1		69
Viguiera	- 1	1	- 1, 1	1	69,88,69
Viguiera multiflora	- 1		+ 1		48
Viola			- 2, 1		40,46,54
Viola canadensis			- 1		49
Viola nuttallii #		1	- 1		36,99
Viola purpurea #				1	22
Wyethia			- 1		55
Wyethia amplexicaulis	- 1	- 1	* 3	- 1	48,78,79,81,83
Wyethia mollis	- 1, 1	1		- 1, 1	55,56,22,55,56
Xanthium				1	32
Zigadenus elegans		* 1	1	1	76,94
Zigadenus paniculatus		- 1			82
Zigadenus venenosus	1	1			86

1 Some plants are listed by two names. Example: Species A = Species B. These are plants with synonymous scientific names which are both used commonly. Those plants marked with # were listed by another less common name or archaic synonymy in some of the original food habits studies. See Table 6 for synonymy.

2 Entries consist of three parts. The first is a symbol which reflects the amount consumed relative to all species reported in those studies where it comprised at least 1 percent of the diet. It is based on an average of the amounts reported, but avoids precise numerical quantification: - = Light; + = Moderate; * = Heavy. The second part (underlined) is the number of literature citations upon which the ranking is based. The third part is the number of citations in which the plant was recorded as a trace amount or comprising less than 1 percent of the diet.

3 Underlined numbers indicate literature citations on which value rankings are based. Those not underlined denote literature where a plant was reported as a trace amount or comprising less than 1 percent of the diet. In many cases a number may appear once underlined and again not underlined for an individual species. This would indicate a plant comprised more than 1 percent of the diet during one or more seasons of the year, and contributed a trace or less than 1 percent during another season in the same report.

Table 4. Grasses, sedges and rushes reported as foods of Rocky Mountain mule deer

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Agropyron	+ 3, 1	+ 2, 1	2	* 2, 2	21,57,62,76,90, 1,15,69,94
Agropyron cristatum #	* 2	* 1, 2	- 1, 1	+ 2	44,57,69,69,94
Agropyron intermedium	- 1		- 1, 1	1	44,69,69
Agropyron saundersii				1	94
Agropyron smithii	- 1, 1	- 1	1	1	60,94,60
Agropyron spicatum	+ 5	- 2	1	- 1, 1	6,17,75,82,94,97,82,94
Agropyron subsecundum	1	1			17
Agrostis	1			1	35,65
Andropogon barbinodis		1			69
Aristida	1				69
Blepharoneuron tricholepis		- 1			88
Bouteloua curtipendula	1	1	- 1	1	69,69
Bouteloua gracilis	- 1, 1	1	1	1	94,69,94
Bromus		* 1, 1	1	1	76, 1,32,55
Bromus anomalus				1	94
Bromus carinatus			- 1		46
Bromus ciliatus			1	1	94
Bromus inermis			+ 1		44
Bromus rubens		- 1			69
Bromus tectorum	+ 3, 5	+ 2, 3	2	+ 1, 3	6,17,57,62,65,15,28,48,54,55,56, 69,99
Calamagrostis canadensis			1	1	94
Calamagrostis rubescens		- 1			17
Carex	- 2, 2	- 1, 4	+ 2, 4	+ 1, 3	19,21,76,79,82, 2,17,32,44,54,56, 83,87,94,95
Carex arapahoensis			1		94
Carex brevipes			1	1	94
Carex foenea			1	1	94
Carex geyeri	1	- 1		- 1	94,15
Carex nebraskensis			1		94
Carex nova				1	94
Cyperus		1			87
Dactylis glomerata		+ 1	+ 2		44,69
Danthonia parryi		+ 1			76
Deschampsia caespitosa			1		94
Echinochloa crusgalli				1	69
Elymus	1				17
Elymus cinereus #	1				97
Elymus glaucus			- 1		79
Eragrostis	2	1	1	- 1	69,65,69
Festuca		+ 1			76
Festuca arizonica		2	2		44,69,88
Festuca idahoensis	+ 3, 1	+ 1			6,17,21,75,17
Festuca ovina			1		44
Festuca scabrella	- 1				75
Festuca thurberi		1	- 1	1	38,94
Hesperochloa kingii #	- 1		1		97,65
Hordeum	1			+ 1, 1	33,16,99
Hordeum jubatum			1		69
Juncus			1		94
Juncus balticus			1	1	94
Juncus drummondii			1		94
Juncus mertensianus				1	94
Juncus regelii			+ 1		96
Koeleria cristata	4	+ 2	+ 1, 1	1	44,69,76,17,69,94,97
Leptochloa filiformis			1	- 1	69,69
Luzula glabrata			1		95
Luzula parviflora	+ 1		1	1	88,94
Muhlenbergia minutissima		1	1		69
Muhlenbergia montana			1		69
Muhlenbergia rigens	1				69
Oryzopsis hymenoides	2	1			82,94,97
Panicum obtusum				1	69
Panicum virgatum				1	69

See footnotes at end of table, p. 28.

Table 4. Grasses, sedges and rushes reported as foods of Rocky Mountain mule deer (continued)

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Phleum			1		69
Phleum alpinum			1		69
Phleum pratense	+ 1	+ 1	2	1	75,76,44,94
Poa	- 2, 4	+ 3, 3	6	2	17,21,69,76, 1,15,49,55,56,65,69, 87,94
Poa compressa		- 1			57
Poa fendleriana	- 1	* 1, 1	- 2	+ 2, 1	44,62,82,94,94
Poa juncifolia	1				94
Poa palustris	1				94
Poa pratensis		2	- 4, 1		38,44,46,79,88,94
Poa secunda = *Poa sandbergii*	+ 1, 1	* 2	1	+ 2, 1	57,60,60,94
Scirpus			1		56
Sitanion	- 1		1		21,94
Sitanion hystrix	- 2, 1	- 3	2	2	57,69,82,44,69,94
Sorghum halepense	1				69
Sporobolus		1			69
Stipa	- 1, 1		1	1	21,94
Stipa columbiana			- 1	+ 1	82
Stipa comata	1	* 1		1	82,94
Stipa lettermanii			- 2		46,82
Stipa pinetorum	- 1	1		1	94,94
Stipa viridula			1		44
Trisetum spicatum			1		94

1 Some plants are listed by two names. Example: Species A = Species B. These are plants with synonymous scientific names which are both used commonly. Those plants marked with # were listed by another less common name or archaic synonymy in some of the original food habits studies. See Table 6 for synonymy.

2 Entries consist of three parts. The first is a symbol which reflects the amount consumed relative to all species reported in those studies where it comprised at least 1 percent of the diet. It is based on an average of the amounts reported, but avoids precise numerical quantification: - = Light; + = Moderate; * = Heavy. The second part (underlined) is the number of literature citations upon which the ranking is based. The third part is the number of citations in which the plant was recorded as a trace amount or comprising less than 1 percent of the diet.

3 Underlined numbers indicate literature citations on which value rankings are based. Those not underlined denote literature where a plant was reported as a trace amount or comprising less than 1 percent of the diet. In many cases a number may appear once underlined and again not underlined for an individual species. This would indicate a plant comprised more than 1 percent of the diet during one or more seasons of the year, and contributed a trace or less than 1 percent during another season in the same report.

Table 5. Lower plants reported as foods of Rocky Mountain mule deer

Plant name[1]	Consumption rankings[2] Winter	Spring	Summer	Fall	Literature citations[3]
Alectoria fremontii	- 1				15
Amanita			+ 1		17
Amanita muscaria			- 1		44
Boletus granulatus			+ 1		44
Boletus aurantiacus			+ 1		44
Clavaria formosa			+ 1		25
Cortinarius			* 1		44
Equisetum				1	33
Equisetum arvense			1	1	94
Equisetum laevigatum			1		96
Letharia vulpina #	1				15
Parmelia chlorochloa	1				94
Pellaea	1	1			69
Pteridium aquilinum		1	+ 1, 1		78,69
Russula emetica			+ 1		44
Selaginella densa	1				7
Usnea			1	- 1, 1	42,94
Usnea sorediifera	1				94

1 Some plants are listed by two names. Example: Species A = Species B. These are plants with synonymous scientific names which are both used commonly. Those plants marked with # were listed by another less common name or archaic synonymy in some of the original food habits studies. See Table 6 for synonymy.

2 Entries consist of three parts. The first is a symbol which reflects the amount consumed relative to all species reported in those studies where it comprised at least 1 percent of the diet. It is based on an average of the amounts reported, but avoids precise numerical quantification: - = Light; + = Moderate; * = Heavy. The second part (underlined) is the number of literature citations upon which the ranking is based. The third part is the number of citations in which the plant was recorded as a trace amount or comprising less than 1 percent of the diet.

3 Underlined numbers indicate literature citations on which value rankings are based. Those not underlined denote literature where a plant was reported as a trace amount or comprising less than 1 percent of the diet. In many cases a number may appear once underlined and again not underlined for an individual species. This would indicate a plant comprised more than 1 percent of the diet during one or more seasons of the year, and contributed a trace or less than 1 percent during another season in the same report.

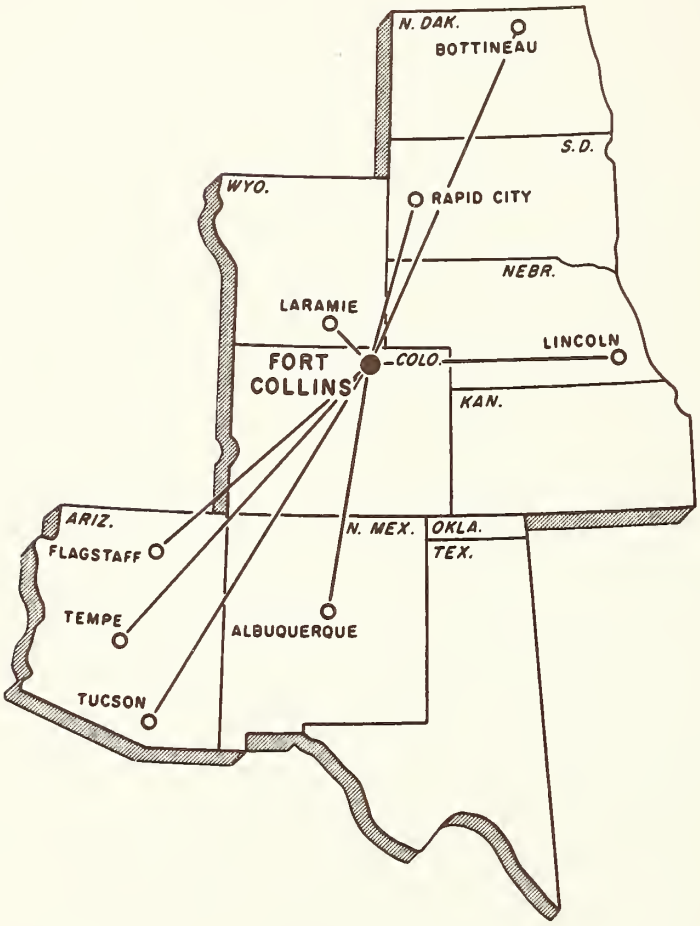
Table 6. Plant names which were changed in this publication from those appearing in the original deer food habits references [1]

Plant name in tables 2-5	Name shown in original reference	Literature citations
	Shrubs and Trees	
Artemisia arbuscula	*Artemisia nova*	37,77
Berberis	*Odostemon*	15
Berberis repens	*Mahonia repens*	3,37,47,50,68,70,78,79,82,92, 97,99
Berberis repens	*Odostemon repens*	8, 9,10,11,12,14,42,84,85
Betula occidentalis	*Betula fontinalis*	78,91,97
Cowania mexicana	*Cowania stansburiana*	23,29,39,48,73,77,78,80,82,99
Fendlera rupicola	*Fendlera*	99
Fraxinus pennsylvanica	*Fraxinus lanceolata*	42
Holodiscus	*Sericotheca*	11,84
Juniperus osteosperma	*Juniperus utahensis*	37,43,64,73,77,80,82,99
Linnaea borealis	*Linnaea americana*	42
Menziesia ferruginea	*Menziesia glabella*	95
Pachystima myrsinites	*Pachystima*	99
Phoradendron villosum	*Phoradendron coryae*	69
Prunus virginiana	*Prunus demissa*	4,15,54,55,56,67,70,98
Prunus virginiana	*Prunus melanocarpa*	8, 9,11,12,14,77,78,79,84,85
Pseudotsuga menziesii	*Pseudotsuga taxifolia*	1,11,14,15,19,37,39,49,59,65, 71,83,84,96,97,99
Rhus glabra	*Rhus cismontana*	42,71,84
Rhus radicans	*Rhus toxicodendron*	66
Rosa acicularis	*Rosa engelmannii*	96
Rosa woodsii	*Rosa fendleri*	99
Rosa woodsii	*Rosa neomexicana*	44
Sambucus coerulea	*Sambucus glauca*	15,82
Sambucus racemosa	*Sambucus melanocarpa*	44
Sambucus racemosa	*Sambucus microbotrys*	78,94
Sambucus racemosa	*Sambucus pubens*	94
Shepherdia canadensis	*Lepargyrea canadensis*	15
Symphoricarpos oreophilus	*Symphoricarpos tetonensis*	64
Symphoricarpos oreophilus	*Symphoricarpos vaccinoides*	37,93,98
	Forbs	
Achillea millefolium	*Achillea*	33,52
Achillea millefolium	*Achillea lanulosa*	15,40,42,44,46,48,65,69,79,83, 84,87,88,91,94,96,99
Anemone patens	*Pulsatilla hirsutissima*	88
Artemisia campestris	*Artemisia canadensis*	96
Artemisia dracunculus	*Artemisia dracunculoides*	69
Artemisia ludoviciana	*Artemisia gnaphalodes*	99
Aster falcatus	*Aster commutatus*	60,69
Astragalus flexuosus	*Astragalus greenei*	99
Brodiaea pulchella	*Dichelostemma pulchella*	69
Castilleja miniata	*Castilleja confusa*	44
Castilleja septentrionalis	*Castilleja sulphurea*	94
Chenopodium album	*Chenopodium berlandieri*	99
Commandra umbellata	*Commandra pallida*	23,69,99
Descurainia pinnata	*Descurainia brachycarpa*	23
Erigeron formosissimus	*Erigeron pecosensis*	99
Erigeron speciosus	*Erigeron macranthus*	69
Eriogonum umbellatum	*Eriogonum cognatum*	69
Fragaria vesca	*Fragaria bracteosa*	48
Fragaria virginiana	*Fragaria glauca*	76
Fragaria virginiana	*Fragaria ovalis*	87,88,94
Gaura suffulta	*Gaura gracilis*	69
Hymenoxys	*Actinaea*	99
Hypericum formosum	*Hypericum scouleri*	95
Leucocrinum montanum	*Leucocrinum*	65
Lithophragma tenella	*Lithophragma*	99
Mertensia arizonica	*Mertensia leonardi*	82
Mirabilis linearis	*Oxybaphus linearis*	69
Monardella odoratissima	*Monardella*	3

Table 6. Plant names which were changed in this publication from those appearing in the original deer food habits references (continued) [1]

Plant name in tables 2-5	Name shown in original reference	Literature citations
	Forbs (continued)	
Osmorhiza depauperata	*Osmorhiza obtusa*	81,94
Phacelia hastata	*Phacelia leucophylla*	91,96
Phacelia heterophylla	*Phacelia magellanica*	44
Phlox austromontana	*Phlox densa*	99
Pulsatilla ludoviciana	*Pulsatilla hirsutissima*	88
Salsola kali	*Salsola pestifer*	84
Schoenocrambe linifolia	*Sedum douglasia*	87
Scophularia lanceolata	*Scrophularia occidentalis*	78
Sedum stenopetalum	*Sedum douglasii*	95
Smilax herbacea	*Smilax lasioneuron*	42
Taraxacum officinale	*Taracacum vulgare*	87
Thermopsis divaricarpa	*Thermopsis pinetorum*	69,87
Thermopsis montana	*Thermopsis gracilis*	54
Trifolium longipes	*Trifolium rydbergii*	48
Trifolium wormskjoldii	*Trifolium pinetorum*	44
Urtica dioica	*Urtica holosericea*	22
Viola nuttallii	*Viola praemorsa*	36
Viola purpurea	*Viola venosa*	22
	Grasses and Grasslikes	
Agropyron cristatum	*Agropyron desertorum*	57,94
Elymus cinereus	*Elymus condensatus*	42
Hesperochloa kingii	*Festuca kingii*	97
	Lower Plants	
Letharia vulpina	*Evernia vulpina*	15

[1] Some names were changed from those appearing in the original references to correspond to usage in most modern plant manuals. Several plants listed only by genus in the original food habits reference are shown by species if only one species of that genus is known to occur in the state where the food habits work was done.


N. DAK.
BOTTINEAU
S.D.
WYO.
RAPID CITY
NEBR.
LARAMIE
LINCOLN
FORT COLLINS
COLO.
KAN.
ARIZ.
N. MEX.
OKLA.
TEX.
FLAGSTAFF
TEMPE
ALBUQUERQUE
TUCSON